Australian Chamber of Commerce and Industry

Opportunities in the Circular Economy

ACCI Submission

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Australian Chamber of Commerce and Industry

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Table of Contents

Australian Chamber of Commerce and Industry

Introduction

ACCI welcomes the opportunity to contribute to the consultation on unlocking the opportunities in the circular economy.

The circular economy is built around retaining the economic value of materials for as long as possible, reducing the depletion of natural resources, and minimising the environmental impact of waste. It encourages the maximisation of resource value and has the potential to boost productivity.

There is growing interest in circular economy both in Australia and internationally. Global materials use is projected to double to 167 gigatons by 2060 and more than half of current greenhouse gas emissions are related to materials management activities[1]. With the world's population approaching 8 billion and projected to reach 9.6 billion by mid-century, there is increasing recognition that we need to do more to reduce the demands on our finite resources.

Australia's circularity rate has increased marginally from 3.5 per cent in 2015, to closer to 4 per cent in 2023[2]. This is half the global average of 8.6 per cent[3] in circularity. Transport and housing make up more than half of Australia's material footprint, followed by food, As Australia's population continues to grow, there are considerable opportunities to apply circular economy principles across range of sectors. Australia currently recycles 39 million tonnes[4] of materials, which is only about half (51.1 per cent) of all materials captured through municipal, industrial, and construction waste schemes. The other half of the material, despite being collected for recycling, is diverted to landfill. This is a lost opportunity.

We need to reduce the amount of waste going to landfill, replace raw materials with recycled products and extend the life of many of the products we use to reduce demand for finite natural resources and minimise the environmental impacts from the extraction and processing of these raw materials.[5]

Transforming Australia's predominantly linear economy would drive economically attractive short and medium-term outcomes, while reducing Australia's reliance on accessing new raw materials. Australia will benefit from expanding its recycling capacity and building industries that can use secondary materials.

Australia's efforts on the circular economy have historically been directed at end-of-life management and recycling. The *National Waste Policy (2018)* and *Action Plan (2019)* include circular economy principles but focus on end-of-life actions that reduce waste and boost recycling. While these are critical to a circular economy, they are only part of the story.

Australia does not currently benchmark progress towards a circular economy beyond reporting waste generation and resource recovery rates in the National Waste Reports[6]. While end-of-life indicators are relevant, they do not capture the broader, up-stream aspects of the circular economy transition.

[1] https://www.oecd.org/content/dam/oecd/en/publications/support-materials/2019/02/global-material-resources-outlook-to-2060_g1g98d7d/highlights-global-material-resources-outlook-to-2060.pdf
[2] https://research.csiro.au/circulareconomy/MaterialFlowAnalysisToCircularEconomy_Summary_WEB_240305-2.pdf
[3] ibid
[4] ibid
[5] https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/recycling/19p1379-circular-economy-policy-final.pdf?la=en&hash=F80151EA9C2C3E27BA889D15D18041CDF7A4D25A
[6] Circular Australia, Circular Economy Metrics: Case Studies for NSW Nov 22 (circularaustralia.com.au), 2022

Leading international economies routinely measure and report on a holistic set of circular economy indicators. For example, the EU has a circular economy monitoring framework which includes indicators covering material footprint, a measure of the materials needed to meet consumer demand, and resource productivity, the amount of GDP generated from resources consumed. Japan's measurement framework also includes an indicator of resource productivity. Some economies also set targets against their national indicators. For example, China has set a 2025 target to increase resource productivity by 20 per cent compared to 2020 levels.[7] Targets and indicators provide clear direction to investors and industry on government priorities, enabling the private sector to respond.

The move to a circular economy in Australia has been slow and fragmented. At this stage, Australian governments and enterprises have committed relatively few resources for R&D into more efficient use of resources and there has been only limited market development for recycled materials. Fragmentation and scale are also emerging issues as state governments move to propose their own principles, regulations and priorities.[8] Failing to meet a national approach to address the barriers and opportunities afforded by the circular economy will lead to further regulatory barriers and investment fragmentation.

The 2018 National Waste Policy states that a 5 per cent economy wide improvement in efficiency in the use of materials could deliver an extra $24 billion to the Australian economy. [9] Yet, the National Waste Policy does not provide, nor seems to be based on, a comprehensive assessment of either the economic benefits available to Australia from moving to a circular economy, or the economic, technical and institutional barriers that may need to be overcome.

While substantial gains can be achieved by moving to greater materials efficiency and investing in the associated technological improvements needed to deliver them, there is currently no national economic assessment framework in Australia to achieve the circular economy or the necessary changes in government policies and institutional arrangements to achieve it.

Success stories for Australia

Private sector investment has increasingly shifted toward sustainability-focused companies in recent years. This shift in the market is born out of the growing understanding that climate risk presents investment risk. As a result, countries and companies are accelerating efforts to gain a first-mover advantage by adopting policies that lower carbon emissions, positioning themselves to embrace circular economic models to capture value from these emerging and expanding markets. This trend includes the rapid rise of the ESG (Environment, Social, and Governance) investment sector, which has seen significant growth as sustainability becomes a core consideration for investors.

Australia's circular economy remains nascent compared to more advanced global peers. Estimates suggest that 4 to 5 per cent of Australia's economy is circular compared to Finland, which is targeting 100 per cent by 2025. An example of circular economy in Australia is the one developed by St Vincent's Hospital Sydney, Allmould Plastics in Orange NSW, and the University of NSW which worked together to

[7] China Briefing, China's Circular Economy: Understanding the New Five-Year Plan (china-briefing.com), 2021
[8] https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/recycling/19p1379-circular-economy-policy-final.pdf?la=en&hash=F80151EA9C2C3E27BA889D15D18041CDF7A4D25A; https://www.parliament.vic.gov.au/publications/research-papers/send/36-research-papers/13880-the-circular-economy-an-explainer
[9] https://www.environment.gov.au/protection/waste-resource-recovery/publications/national-waste-policy2018

create a new supply chain for plastic waste. The hospital collected plastic ampoules and needle caps that would otherwise be incinerated or landfilled. These high-quality plastics were redirected to the Allmould Plastics facility, where they were moulded into roller door wheels and wind farm components. The collection of just these two plastic items across the NSW public health system prevented nearly 70 million pieces of plastic from reaching landfills, saving 150 tonnes of plastic waste and generating annual savings of $150,000[10]. Moving beyond these two items, if the estimated 40-60 per cent of recyclable waste currently going into clinical waste streams was recovered, there are potential savings of $2-3 million[11] a year across the NSW Health system that could be reinvested into patient care.

However, challenges remain in managing the supply chain process such as handling transportation costs, managing waste volume, contamination and handling costs and research and development required to develop technology such as blockchain or AI tracking in the medical products supply chain.

Paintback, an ACCI' member, is at the forefront of circular economy efforts for paint materials. Paint contains heavy metals that can accumulate in the environment, leading to soil contamination and poisoning along food chains if not disposed of correctly. To combat, this, Paintback collects used paint from professional painters and households through designated collection sites for treatment and repurposing, significantly reducing the amount of paint that ends up in landfills. Once collected, the paint is repurposed in various ways, including converting it into an alternative fuel source to replace coal, or extracting water from the paint for use in other industries.

Paintback has also developed a new cleaning process that transforms discarded plastic paint pails into their Multi-Purpose Bucket, a painting accessory that is recyclable. A trial of this product range at Bunnings in Victoria has been well received, with plans for expansion.

In the 2022-23 financial year, Paintback contractors reported collecting 8.8 million kilograms of unwanted paint and packaging across Australia, contributing to responsible disposal and repurposing, preventing this waste from reaching landfills.

However, Paintback has encountered regulatory challenges in its efforts to expand operations. It aims to open a new PaceHQ facility to bring a large part of the specialised end-to-end sorting and treatment of paint and packaging in-house and under one roof, but has faced delays due to regulatory hurdles. Although Paintback obtained licenses to operate the pilot plant, leftover paint collected is classified by regulators as "prescribed waste" rather than valuable raw material. As a result, Paintback needed additional licensing to conduct field trials necessary to test and verify results.

Australia's complex and fragmented waste regulation system creates significant barriers to innovation. Combined with the challenges of navigating complex environmental approvals, this limits the industry's ability to manage end-of-life products in sustainable ways. Shifting perspectives on waste and reforming regulations would help drive circular economy initiatives, unlocking the potential for more sustainable practices across the industry.

[10] https://circularaustralia.com.au/wp-content/uploads/2021/10/NSW-Circular-Plastics-in-Healthcare-Transition-Plan.pdf
[11] https://circularaustralia.com.au/wp-content/uploads/2021/10/NSW-Circular-Plastics-in-Healthcare-Transition-Plan.pdf

Priority Opportunities for Australia

The circular economy is a system solutions framework that gradually decouples economic growth from consumption of non-renewable resources and reduces the amount of waste produced. The Australian economy has high material flows yet relatively low circularity. Australia exports most of its primary materials to other countries and imports most of its consumer goods. In 2019, Australia's material extraction stood at 2,587 million tonnes, supplemented with 917 million tonnes of imports, and 39 million tonnes of domestically recycled materials[12]. The very low rates of recycling suggest there is a significant opportunity to change the way we produce, with less reliance on virgin material resources through a shift to greater use of recycled materials. This could also include green waste recovery, with composting of organic waste to return carbon to the soil, which has the co-benefit of reducing methane emission from landfill.

These outcomes are best achieved by increasing competition in existing markets, providing incentives for business to innovate and investing in new technologies. For a circular economy model to work, markets for second-hand products and recycled materials must exist. A challenge today is that reconditioned products and recycled materials are often not price competitive with the cost of the virgin material input, making it less economic to use recycled content in the manufacture or recondition the item. There are also problems with impurities and the recycled material being of lower quality than a product produced with virgin materials.

There is a need to look at new and more innovative ways of turning waste into new input materials. To achieve sustainable long-lasting development of this capacity in Australia, it is important to focus on industry-led solutions. Government also has an important role in creating the right enabling environment for private investment in this capacity and market development. The focus should be on initiating and nurturing new business opportunities that maximise the value and usage of finite resources at each stage in a product's lifecycle.

While the possibilities for new ways in which goods and services are produced and consumed are numerous, competitive markets and innovation are powerful mechanisms for determining what is technically possible and economically feasible. To support this, it is necessary to change the regulatory settings to facilitate greater investment in waste collection, processing capacity and market development for recycled materials.

In addition, much of the challenge exists upstream in the supply chain, before the waste and pollution are generated. We need to think about the opportunities for long-term value creation, through more durable longer-life products, second-hand markets and refurbishment to extend the life of products, rather than perpetuating an endlessly linear model.

Pre-existing solutions already allow us to turn waste into valuable resources and products, creating new revenue streams—such as upcycling textile sludge into bricks or repurposing plastic bottles into the soles of running shoes. However, collecting 'waste' to manufacture new products only scratches the surface of the issue and it does not address the energy used and waste created to make the original product, or what will happen to this new creation when it's no longer wanted or needed.

[12]https://research.csiro.au/circulareconomy/wpcontent/uploads/sites/303/2024/04/2300596_ENV_REPORT_AustraliasComparativeAndCompetitiveAdvantages_WEB_240404.pdf

Simply designing with waste, rather than designing out waste, tackles only part of the problem. Rather than designing a pair of running shoes with ocean plastic, it is better to design products that are more durable and repairable. Plastic bottles should be reusable, not disposable, so that they stay in use and circulate in the economy longer. This shouldn't be about retaining products for just one extra cycle, but looking at alternative uses so they are used numerous times and may never end up as waste at all.

Another way to strengthen supply chains to implement circular economy principles is through digitisation, which would ensure better resource management, efficiency and supply chain transparency. Various digital technologies can help transform manufacturing and supply chains. However, the uptake of digital innovation in Australia has been restricted by its relatively small domestic market, geographic isolation, and a manufacturing landscape dominated by small and medium enterprises, which has slowed the rollout of necessary standards and governance frameworks.

Metric for assessing the circular economy

The circularity score reported by the Circularity Gap Reporting Initiative is a very broad measure of the proportion of secondary materials in an economy.

The better measure would be measuring the circularity rate as the total amount of materials recycled against the total amount of waste generated. This recycling rate should be calculated as a percentage of end-of-life materials that are reused, repurposed, refurbished or recycled. However, this measure should exclude materials that are irreversibly transformed through use. Certain products are inherently linear, as they are irreversibly transformed during their use. Examples include fuels used to produce energy or food used for nourishment.

This recycling rate serves as a valuable comparative metric, indicating the proportion of solid waste diverted from landfills through material recovery. It is available for many countries globally, with the Republic of Korea setting a benchmark at a 57 per cent domestic recycling rate.

International opportunities for circular economy

As countries, shift to a circular economy, the focus moves from creating new materials to reusing, repairing, remanufacturing and recycling existing ones. This change will transform global trade, especially regarding material exchange. Australia must build its reputation as a trusted participant in global circular value chains. International partners are also essential to boosting direct foreign investment in industry opportunities for a circular economy, acquiring skilled workforce and technologies, and sharing policy insights on how to accelerate the circular transition in Australia.

Australian companies need to navigate the relevant international standards, some of which may not yet exist for products made with secondary materials. Furthermore, the markets for these new products are yet to be developed.

Asian countries are the main trading partners for Australia's end-of-life materials. In 2021–22, Australia exported 4.41 million tonnes of end-of-life materials valued at A$4.36 billion. The top seven recipients of

end-of-life plastics, tyres, textiles and metals were Indonesia, Vietnam, Bangladesh, Malaysia, Thailand, South Korea and Taiwan. Plastics, tyres and textiles have relatively low recycling rates compared to other waste streams in Australia, given the lack of dedicated recycling infrastructure for these materials. Most of the imports of Australian scrap tyres are processed overseas and brought back for subsequent onshore use or re-export. Instead of relying on international partners for end-stage recycling, Australia should be able to develop recycling infrastructure, to meet both domestic demand as well as exporting to other countries. Processing more end-of-life materials will build Australia's reputation as a trusted supplier of high-quality secondary materials for international industries. However, doing so requires substantial investment in R&D in material recovery technologies and upgrades to recycling infrastructure.

Custom regulations also need to be updated to facilitate the circular economy. The materials that have completed their initial purpose and are ready for remanufacturing, refurbishment, or recycling, are typically classified as "waste" under the current version of the Harmonized System (HS) for the classification of goods. As a result, they are often subject to bans or restrictions on import/export. This has a direct adverse and restrictive impact on circularity of many materials, from used clothing to car tyres, packaging material to building materials. Moreover, at the international six-digit HS level, the codes are not granular or expandable enough to add unique HS codes for each stage of a product's lifecycle. This means that when goods such as a used pair of shoes are being shipped to be resold directly or processed into new feedstock, domestic tariff rates will be assessed using the same tariff as for a new product, as it is the closest item in the HS code available. This is despite the much lower value of the used product. Thus, companies incur losses when selling used products due to the higher duties, which hinders their participation in the resale economy.

We need more guidelines around the customs value to be declared for reusable goods to ensure a business is not charged more to enact circularity than it gains from participating.

Hurdles and barriers to Circular economy

Cost of Recycled Goods - One of the most notable factors challenging the development of markets for recycled goods is the cost to collect and process recycled waste. The high cost of managing waste and processing can make recycled materials significantly more expensive than virgin materials. This is particularly relevant for plastic, where recycled plastic can be up to 15 per cent more expensive than virgin plastic.[13] To create markets for recycled goods the costs of production need to be competitive with virgin resources. In contrast with plastics, products such as steel, aluminium and copper, are readily recycled more cheaply than the production of the virgin material, so hold value throughout their life and as scrap/waste.

Quality of Recycled Material - Many forms of waste have a limited recyclable life. While glass and most metals can be recycled infinitely, plastic can only be recycled two to three times before is too degraded to reuse, while paper can only be recycled three to five times before the fibres break down. With the quality of the material degrading every time the waste is recycled, more virgin material must be

[13] Hicks, R. (2024). Recycled plastic at virgin prices? Asian recyclers say market volatility making it hard to meet brands' demands. Eco-Business. https://www.eco-business.com/news/recycled-plastic-at-virgin-prices-asian-recyclers-say-market-volatility-making-it-hard-to-meet-brands-demands/

added to maintain a sufficient quality. As a result, with the quality of recycled products often inferior and production costs higher, it is very difficult to develop markets for these recycled materials.

Global market for recycled ICT products - The global market for remanufactured ICT products presents significant challenges. Many countries outright ban the import of remanufactured goods on the grounds that they are not new. Other countries that do allow them, often require lengthy and complex process to obtain an import license for ICT products. The first step is to figure out each country's process and regulatory requirements, which vary country by country. Once an import license application is submitted, usually to the department of home affairs, it can take many weeks for the application to be approved. Most countries with restrictions on used goods do not reference "remanufactured" in their regulations. This gap is due in part to the lack of a global standard or universal definition of "remanufactured." The lack of a global standard definition affects the ability for businesses in the ICT sector and many other sectors to enable a circular economy. A global standard definition of "remanufactured" would let authorities in countries with restrictions reconsider and align their rules for allowing remanufactured goods to enter the country.

Lack of common definitions for circular economy strategies - Regulations and laws often focus on a single circularity principle, such as repairability or recycled content. These are often enforced by government agencies working in silos. As a result, there are no clear definitions of key circular economy terms. This piecemeal approach leads to inconsistent and unpredictable enforcement of circular economy principles by various government authorities, varying from jurisdiction to jurisdiction. For example, the definition of "reuse" in one jurisdiction might solely focus on product parts, whereas in another regulations governing repair may not recognise reuse services that exist as part of end-of-life management regulations.

Challenges due to Basel Convention - The Basel Convention was designed to limit the cross-border movement of hazardous waste from developed to less developed countries. It was not designed to take into account the evolution of circular economy policies and innovative developments in technology. An unintended consequence is that it is now a barrier to the development of reverse logistics programmes, impeding the flow of goods and recoverable materials from back to sellers and manufacturers, which is crucial to a circular economy.

Lack of innovative recycling technology capacity- Existing recycling facilities only treat a handful of materials. Significant investments are required to develop and increase the recycling capacity, but the lack of legal certainty and the regulatory complexity regarding the future use of recycled materials is limiting investments in recycling technologies. There is also insufficient demand for most recycled materials in the Australian market. For traditionally hard-to-recycle materials and materials with limited economic value, innovations are at different stages with varying potential for scaling up. Thus, many companies have limited options to use recycled materials without completely revising their product offerings. Further, recycling facilities for certain materials are highly specialised and are not available in all countries, particularly smaller ones, requiring the "waste" to move across borders, which as noted above, is hampered by current regulations. For example, the lithium-ion battery recycling industry in Australia is not well established, with only 10% of lithium-ion battery waste being recycled.[14] These

[14] Yanyan Zhao, Thomas Ruether, Anand Bhatt, Jo Staines. (2021). Australian Landscape for Lithium Ion Battery Recycling and Reuse in 2020 - Current Status, Gap Analysis and Industry Perspectives. CSIRO Research Publications Repository. https://doi.org/10.25919/91ap-m622

batteries are highly valuable, but to process this waste requires specialised technology and equipment that is expensive, which has limited investment in battery recycling.

Lack of traceability and data- The absence of traceability and data on certain product ingredients impede many circular economy strategies, in particular recycling and refurbishing. The inability to fully determine the chemical and material composition of products results in them being incinerated rather than reused. The data collection is also challenging, especially for "end-of-life" collection and processing, as the materials are scattered and segmented across markets. Because of insufficient data quality, companies have difficulty accurately monitoring performance and forecasting demand for outputs incorporating circular design.

Lack of collection and sorting infrastructure- Currently there is limited infrastructure for collecting, sorting, recovering, and processing of "end-of-life" materials. Establishing such infrastructure is costly, and there can be unclear responsibilities between the private sector and the government. On a macro level, there is a geographic disconnect between where collection, sorting, reprocessing, and advanced recycling technologies are located and where "waste" is located. These challenges limit the volume of post-use materials available for processing, consequently constraining scalability. Furthermore, the failure by consumers to return or sort products affects the quality of post-use material streams, hindering the profitability of potential circular solutions.

Complex manufacturing processes- Packaging producers, brand owners, and retailers usually design their packaging to enhance appeal, convenience, durability, and product protection rather than focusing on end-of-life considerations. While some packaging attributes add economic value or meet safety requirements, others may simply be cosmetic, with use of unnecessary chemicals that impede circularity, undermining material recovery and value. For example, only 42 per cent of plastic packaging in the market is designed with good recycling potential. Also, improper disposal of end-of-life materials leads to contamination that inhibits reprocessing efforts. Contaminations in material streams make it technically more challenging and labour-intensive to effectively recover value in post-use materials and require an additional detoxification step to remove substances of high concern, such as per- and polyfluoroalkyl substances (PFAS), heavy metals, and asbestos. This further increases the cost of establishing circular loops. These poor design leads to excess packaging, or unnecessary and problematic packaging formats which pose significant difficulty for the downstream recycling and waste management sectors posing a high burden on the environment.

Upfront investment- Research and development (R&D) and upscaling of circular practices require substantial up-front investments, posing financial risks. This investment hurdle limits circular innovation to large corporations committed to circular principles, and the cost burden is borne by brand owners or consumers. The risk of investing in circularity can be perceived as high relative to other investment opportunities, limiting the availability of capital for circular economy investments.

Consumer behaviour and perception - Consumers are increasingly recognising the circular economy's role in reducing waste across various categories, but adoption remains limited. The CommBank Consumer Insights survey reveals that only 33 per cent of consumers use waste reduction services provided by businesses, while 79 per cent would use such services if they were more widely available. Currently, just 16 per cent of consumers use online marketplaces to sell or donate used items, and only 10 per cent participate in programs that allow them to donate unused items to those in need. These figures highlight a gap in consumer awareness regarding recycling, repair, and refurbishment

options led by businesses, which could extend product life through take-back initiatives. Many consumers also expect circular products to look identical to new ones and may hesitate to compromise on aesthetics, even if recycled materials meet the same performance standards. For example, although recycled plastics meet performance requirements, replicating the vibrant colours of virgin plastics is challenging. Additionally, consumers lack information on how to return used products for resale or recycling due to inadequate labelling and practical instructions on reverse logistics, limiting participation in these sustainable initiatives.

Lack of commodity markets- The lack of commodity markets for secondary raw materials remains another barrier to the implementation of circular economy concepts worldwide. To move from small waste stream loops like eco-industrial parks to a global circular economy, there needs to be mediation and regulation of these materials. Such commodity markets have been established in the past but did not reach sizes to be economically viable.[15] The DCCEW Consultation paper on Reform of Packaging Regulation identifies that recycling of used packaging is hampered by gaps in recycling capacity and lack of end markets for recycled materials. A lack of end markets is a key barrier to investment in recycling infrastructure, with virgin plastic cheaper to use than recycled plastic. Government intervention is crucial in developing these markets, particularly in addressing negative externalities. This could include providing easy access to data and information for firms interested in using waste streams as inputs, thereby enabling greater participation and facilitating market growth.

Actions undertaken by the Government

The National Waste Policy does not provide, nor seems to be based on, a comprehensive assessment of the economic benefits available to Australia from moving to a circular economy, or the economic, technical and institutional barriers that may need to be overcome. The government needs to incorporate clear definitions and distinctions of secondary raw materials versus waste. Given the lack of globally accepted definitions for even the most basic circular economy terms, including remanufactured, refurbished, like-new, repurposed and used, creates regulatory uncertainty for businesses considering investments in circular economy. The failure to define these critical terms leaves their use open to interpretation and misapplication by both governments and businesses.

All three levels of government must work together on overcoming the economic, technical and institutional barriers to Australia moving to a circular economy. There is an urgent need for harmonised regulations and policies as well as guidance for their implementation on the national levels to pave the way for consistent progress in the circular economy. For instance, Extended Producer Responsibility (ERP) schemes should be simplified by introducing one-stop shops supported by strong education campaigns to improve understanding of new legislation and avoid the creation of barriers to trade for SMEs. More sensible, aligned, and harmonised policies across borders are necessary to ensure that all entities follow the same guidelines for smooth trade and compliance.

There is a dearth in the number of buy-back, resale and recycling programs that would encourage consumers to reduce waste and consumption. We need programs at a national scale to encourage the uptake of recycled goods. For instance, Australia previously had a voluntary industry scheme called

[15] World Economic Forum, 'Towards the Circular Economy: Accelerating the Scale-up Across Global Supply Chains', World Economic Forum, Jan 2014

REDcycle which collected soft plastics for recycling primarily through in-store drop offs at major supermarkets. The collapse of REDcycle in 2022 highlighted several issues across the supply chain including significant capital requirements, absence of at-scale collection pathways, and under-developed end-markets. Implementing a harmonised, nationwide collection system would be essential to prevent waste from ending up in landfills and support effective circular economy programs.

As we advocate for a national plan and strategy to drive positive change in the circular economy, there are different industry sectors such as steel which have their own specific and unique policy and regulatory needs which must be addressed to capitalise on the circular economy. In steel industry, over 1.05m tonnes of unprocessed steel scrap, in the form of used vehicles and white goods containing banned waste exports such as plastics, rubber, glass, oils, coolants, and batteries are exported each year to developing countries. If this steel scrap were to be processed domestically, it could replace approximately 37 per cent of Australia's primary steel production.[16]

Steel scrap availability is a critical circular resource for the Australian steel industries transition journey to lower carbon steel making. The largest source of emissions from the steel making process is from the coking coal used as a reductant in the blast furnace. However, to reduce, carbon emissions, alternative technologies are used for manufacturing steel. This includes manufacturing steel using an Electric Arc Furnace where the scrap input has already been reduced from iron ore at the primary stage, so new steel can be made without coking coal and the emission it generates. Secondary EAF producers rely on 100 percent steel scrap for production inputs. According to Australian Steel Institute, within the next 3 years, steel industry will require an additional 500,000 tonnes of steel scrap, and in around 10 years this additional demand will increase to around 2.5m tonnes.

Australia needs to capitalise on its own scrap supply. Incentives are needed to develop steel recycling facilities so that more steel scrap is retained for domestic processing. This will help meet domestic steel consumption needs and support the transition to lower-emission steelmaking technologies.

Through making this simple change, we can free up to around 800,000 plus tonnes of local scrap steel from our own waste for local steel production. This would also deliver a range of other benefits, including:

- reducing the export of banned wastes currently mixed with the steel scrap and not treated to appropriate environmental standards
- reducing GHG emissions from Australian steel mills by an estimated 1.2m tonnes per annum
- adding 37.2 FTE scrap steel processing jobs per 10,000 tonnes of extra scrap processed in Australia
- offering new opportunity for increased Australian steel production
- greatly optimising the steel industries participation in the circular economy as it transition towards low carbon steel making.

Similarly, regulations around road construction are quite restrictive in the type and amount of recycled materials that can be used in road base. There are a broad range of recycled materials that could be used in road base, such as concrete and aggregates, tyre crumbs and glass, but there's no market, so instead this ends up in landfill.

These examples raise concerns that we need a sector specific approach to capitalise on the opportunities for circular economy and harmonisation across states and government departments for ensuring

[16] SunShot: Achieving global leadership in clean exports, Accenture, September 2023

consistent practices across all the jurisdictions to negate the impacts of multiple and divergent policy operating environments.

In addition, Government needs to create the right enabling environment for private investment in waste management capacity and market development for recycled product to efficiently and effectively ensure resources flow to emerging, productive and sustainable sectors of the economy. It needs to ensure that policies increase competition in existing markets, create competitive new markets, and provide incentives for business to innovate and invest in new technologies to deliver more efficient use of material resources and better environmental outcomes.

Current planning and procurement processes in the private and public sectors do not create the space needed to consider circular opportunities. For instance, in the built environment, which accounts for a third of resource consumption globally and produces about 40 per cent of Australia's solid waste, offers good potential for building circular economy practices. However, there is a lack of centralised policy and no single point for industry to engage with the government on policy in the built environment. There have been issues on both the demand side (the lack of information on materials used) and supply side (inability for supply chains to collaborate). We need solutions that address both supply and demand at the same time and connect the two to create markets. There are also the cost implications of the market to consider. Government procurement is a powerful lever to create certainty in demand by leading best practice and a central coordination point which would help facilitate supply.

Businesses in the B2B sector are increasingly leveraging reusable packaging solutions, with many examples of large-scale adoption, such as reusable pallets, crates, foldable boxes, pails, drums, and alternatives to flexible pallet wraps. Transport packaging is often reused within individual companies and on a broader scale across industries, supported by networks of operators managing shared, standardised reusable packaging systems. The Australian Packaging Consumption and Recovery Data highlights that these reusable systems helped avoid 2.6 million tonnes of single-use packaging in 2020-21, with 92 per cent of the benefit attributed to reusable pallets and plastic crates. Expanding these practices across more sectors, with government intervention and support, would further reduce single-use packaging waste and enhance sustainability[17].

[17] Australian Packaging Consumption and Recovery Data 2020-21 Executive Summary (packagingcovenant.org.au)

About ACCI

The Australian Chamber of Commerce and Industry represents hundreds of thousands of businesses in every state and territory and across all industries. Ranging from small and medium enterprises to the largest companies, our network employs millions of people.

ACCI strives to make Australia the best place in the world to do business – so that Australians have the jobs, living standards and opportunities to which they aspire.

We seek to create an environment in which businesspeople, employees and independent contractors can achieve their potential as part of a dynamic private sector. We encourage entrepreneurship and innovation to achieve prosperity, economic growth, and jobs.

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