

Recyclers in Product Stewardship

Challenges, priorities, and recommendations from the recycling sector

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Acknowledgement of Country

We acknowledge that Aboriginal and Torres Strait Islander peoples are the First Peoples and Traditional Custodians of Australia, and the oldest continuing culture in human history.

We pay respect to Elders past and present and commit to respecting the lands we walk on, and the communities we walk with. We celebrate the deep and enduring connection of Aboriginal and Torres Strait Islander peoples to Country and acknowledge their continuing custodianship of the land, seas and sky.

We acknowledge the ongoing stewardship of Aboriginal and Torres Strait Islander peoples, and the important contribution they make to our communities, economies and the environment.

About ACOR

The Australian Council of Recycling (ACOR) is the peak industry body for the resource recovery, recycling, and remanufacturing sector in Australia. The Australian recycling industry contributes almost \$19 billion in economic value, while delivering environmental benefits such as resource efficiency and diversion of material from landfill. One job is supported for every 430 tonnes of material recycled in Australia.

Our membership is represented across the recycling value chain, and includes leading organisations in advanced chemical recycling processes, CDS operations, kerbside recycling, recovered metal, glass, plastic, paper, organic, tyre, textile, oil, battery and e-product reprocessing and remanufacturing, and construction and demolition recovery. Our mission is to lead the transition to a circular economy through the recycling supply chain.

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Executive summary

The recycling sector strongly supports an increased focus on producers and distributors (known as ‘brand owners’) to take greater responsibility across the full lifecycle of products, including at end of use. Product stewardship and extended producer responsibility can be an effective way to reduce waste and lift recycling rates—particularly where recycling rates are low, or materials have low or negative value—but only if these schemes are properly designed in partnership with recyclers.

At present, existing voluntary and co-regulated product stewardship schemes endorsed by the Australian Government predominantly cater to brand owners. However, it is imperative to recognise that these entities represent only a part of a product's lifecycle.

Many product stewardship schemes appropriately emphasise the waste management hierarchy priorities of avoidance, reusability, and designing for repair, yet all products inevitably reach an end of use, where the ideal outcome is recycling.

Overwhelmingly, when schemes do engage with recycling activities, the focus is primarily on the public-facing, marketable elements of collection and processing, while underinvesting in the equally critical aspect of high-value recycling outcomes and demand generation for recycled material.

Too often, cost reduction is prioritised over quality recycling outcomes in such schemes. Not only does this undermine legitimate recycling operations, but it also erodes community confidence in recycling when the system fails.

Recent trends indicate recovery rates for household waste have stagnated, while commercial and industrial waste recovery rates have declined. This pattern underscores the urgent need for a concerted effort to invest in genuine recycling outcomes.

The establishment of a scheme must not be seen as an end in itself: it must be a means to delivering sustainable and economically viable circular outcomes, in partnership with the entire supply chain.

Engagement with the rest of the supply chain—especially recyclers, who are the subject matter experts on recycling—is essential to ensure product stewardship schemes deliver genuine value to brand owners, government entities, communities, and recyclers, and support the transition to a circular economy.

The recycling sector is concerned that some existing voluntary and co-regulated product stewardship schemes are not delivering robust recycling outcomes while new schemes are being established without the correct mechanisms in place to drive effective resource recovery and demand for recycled materials.

With thirteen industry-led government-accredited voluntary and co-regulated schemes, almost one hundred schemes operating in Australia, and many more in development, now is the time to better align these initiatives, set stronger targets, adopt better governance and ensure accountability, to deliver genuine outcomes that support community confidence and proper investment in a robust and competitive recycling value chain.

This paper outlines the priorities and challenges for recyclers in the current context of a drive towards more stewardship and extended producer responsibility models. It recommends measures for product stewardship schemes that will deliver better environmental outcomes and more genuine engagement across the supply chain, including designing for recycling and reuse, expanded collection and safe disposal measures, ensuring robust market demand for recycled materials and transparent scheme governance focussing on compliance and consequences.

Priority areas to deliver better recycling outcomes from product stewardship are as follows:

- **Rethink and restructure product stewardship**
- **Design for recycling and reuse**
- **Create robust market demand**
- **Enhance collection infrastructure and consumer incentives**
- **Tighten scheme governance**
- **Enforce compliance and consequences**

Summary of product stewardship challenges and solutions

Common issues in product stewardship schemes	Recommendations
<ul style="list-style-type: none"> – Underfunding recycling – Product stewardship prioritised above more effective policy and regulatory levers – Duplicative schemes creating inefficiency and confusion 	<ol style="list-style-type: none"> 1.1 'Trigger Framework' to determine when a product stewardship scheme is required 1.2 Assess and embed actual costs of recovery and recycling <hr/> <ol style="list-style-type: none"> 2.1 Federal EPR legislation, initiated by 'Trigger Framework' 2.2 Evidence-based targets for recyclability, with targets increasing over time
<ul style="list-style-type: none"> – Weak end markets for recycled materials 	<ol style="list-style-type: none"> 3.1 Robust end markets for Australian recycled content 3.2 Economic incentives for use of recycled materials 3.3 Minimum thresholds for Australian recycled content 3.4 Certification and labelling for Australian recycled content 3.5 Target dumped and subsidised imported material
<ul style="list-style-type: none"> – Poor governance, including conflicts of interest, and under-representation across supply chain – Scheme administration prioritised over recycling – Lack of appropriate targets or proportional consequences for non-achievement 	<ol style="list-style-type: none"> 4.1 Expand the scope of mandatory e-stewardship, incorporating all consumer electronic and electrical equipment and loose and embedded batteries into one comprehensive scheme 4.2 Gap analysis of disposal options for all electronic and hazardous waste streams 4.3 Comprehensive network of safe disposal sites 4.4 Incentivise safe battery collection with deposit refund <hr/> <ol style="list-style-type: none"> 5.1 Supply-chain representation in product stewardship scheme governance 5.2 Recycling sector expert convenor to engage product stewardship schemes with recycling sector 5.3 Clearly defined and measurable objectives, rules and targets 5.4 Transparent data about objectives, decision-making processes, recovery rates, recycling outcomes and material movement 5.5 Ensure scheme's objectives are met with accountability measures
<ul style="list-style-type: none"> – Poor accountability and transparency 	<ol style="list-style-type: none"> 6.1 Australian Recyclers Accreditation Program (ARAP) 6.2 Enforce waste export regulations 6.3 Regulate the export of waste textiles, unprocessed scrap metal and unprocessed e-products 6.4 Tax incentives or priority access to markets for best-practice recycling facilities 6.5 Product stewardship schemes to be subject to third-party audits and/or inspections 6.6 A nationally harmonised resource recovery framework

Background

The *Recycling and Waste Reduction Act* was passed in 2020, providing a framework for managing Australia's recycling and waste reduction objectives, which include the development of a circular economy.¹ The Act identifies voluntary, co-regulatory and mandatory product stewardship schemes as a means to manage the impacts of products and materials throughout their lifecycle, and enables a more accessible framework for accreditation of voluntary schemes. The Act provides for the use of the Commonwealth's logo for accredited voluntary schemes, promoting the recognition and credibility that government accreditation affords.²

The Australian Government has signalled a preference for industry action through product stewardship schemes. The establishment of many government-accredited schemes has also been encouraged by the Minister's product stewardship priority list,³ which identifies products lacking circular or recycling solutions at their end of use.

The Product Stewardship Centre of Excellence (Centre of Excellence) was established in 2021 with the support of the Australian Government. The Centre of Excellence maintains the Product Stewardship Gateway, a directory of product stewardship schemes in Australia, detailing any reporting data product stewardship schemes disclose.

In 2023, the Centre of Excellence delivered their evaluation of product stewardship and extended producer responsibility activity in Australia,⁴ in line with action 3.3 of the National Waste Action Plan 2019.⁵ The summary report presented a positive view of product stewardship in Australia, despite acknowledging difficulties in assessing efficacy due to poor reporting from schemes:

Given the inconsistency and gaps in data collection and reporting, only a few of annual performance indicators could be aggregated. There were also limitations in assessing how effective initiatives are performing. For example, tonnes of waste products collected for recovery and materials recovered were not always reported in the context of total waste arising. Without this data, it is difficult to determine how effective the initiative has been in increasing recovery or diverting waste from landfill.⁶

Some mandatory and well-governed product stewardship schemes have been successful. State-based container deposit schemes (CDS) will soon be operating nationwide. They are generally considered to be an appropriately governed and funded approach by recyclers, industry and government stakeholders alike. These mandatory schemes provide a 10-cent refund for the return of beverage containers, aligning economic incentives with environmental goals.

¹ Australian Government Department of Finance, '[Recycling and Waste Reduction Act 2020](#)', Australian Government Transparency Portal website, accessed March 2024.

² Department of Climate Change, Energy, the Environment and Water, '[Product stewardship schemes and priorities](#)', DCCEEW website, accessed March 2024.

³ Department of Climate Change, Energy, the Environment and Water, '[Minister's Priority List 2023–2024](#)', DCCEEW website, accessed December 2023.

⁴ Product Stewardship Centre of Excellence (May 2023) '[Evaluating product stewardship: Benefits and effectiveness, summary report](#)', Product Stewardship Centre of Excellence website, accessed March 2024.

⁵ Department of Climate Change, Energy, the Environment and Water (2019, 2022) '[National Waste Policy Action Plan 2019](#)', DCCEEW website, accessed March 2024.

⁶ Product Stewardship Centre of Excellence (May 2023) '[Evaluating product stewardship: Benefits and effectiveness, summary report](#)', p. 10, Product Stewardship Centre of Excellence website, accessed March 2024.

Case Study 1: Container Deposit Schemes

Container deposit schemes (CDS) will soon be operating in every Australian state and territory.

These schemes have attracted industry and community participation and substantially reduced beverage container litter and landfilling. The schemes allow for access to quality recovered material, which leads to highest-value material reuse, such as bottle-to-bottle recycling. For example, the hot-wash PET flake generated from CDS products delivers high-quality recycled PET (rPET) for the Australian packaging market. The schemes also deliver uncontaminated glass for high-value recycling.

Through mandatory product stewardship including a 10-cent refund on returned containers, these schemes have delivered a national average recovery rate of 69%,⁷ collectively resulting in the recovery of over 30 billion beverage containers, while supporting jobs as well as fundraising for community groups.

More work now needs to be done to improve return rates to international standards, achieve a nationally harmonised approach and lift governance in some schemes.

Product stewardship and extended producer responsibility schemes are intended to encourage manufacturers, retailers, consumers, and other stakeholders to take shared responsibility for the environmental and human health effects of products. They aim to drive environmentally beneficial outcomes through good design and clean manufacturing, including the use of components and materials that are easier to recover, reuse and recycle, and often involve strategies such as designing products for recycling, creating take-back programs for used products, and promoting responsible disposal practices.

Case Study 2: Dutch Extended Producer Responsibility Textiles Decree

In the Netherlands, an extended producer responsibility scheme (Uitgebreide Producentenverantwoordelijkheid, UPV)⁸ for textiles came into effect on 1 July 2023. It establishes the following targets for reuse and recycling, which will ratchet up over time:

- By 2025, 50% of the previous year's total weight sold must be recovered for reuse or recycling. Of this percentage, at least 20% must be reused, with at least half reused in the Netherlands. By 2030, it increases to 75% of the previous year's total weight sold, with at least 25% reused of which 15% must be reused in the Netherlands.
- By 2025, 25% of all textile fibres of discarded textile products must be used in materials for new products (fibre-to-fibre recycling). By 2030, this must be 33% of all textile fibres.
- Producers will have to submit an annual report setting out the details of their compliance with the decree, and are financially responsible for setting up a suitable collection and processing system for discarded textile products. Non-compliance may be punishable with criminal law sanctions.

However, all products produced or distributed in Australia ultimately reach the Australian waste stream—including materials banned from export over the last few years. Onshore recycling and the creation of markets for recycled materials must therefore be an overarching priority across all product stewardship initiatives.

At a time when resource recovery rates have stagnated,⁹ it is vital that recycling is prioritised. The recycling sector plays an indispensable role in diverting materials from landfill and reintegrating them into the supply chain, closing the loop in a circular economy.

Recycling operates as an integrated system, comprising collection, processing, and end markets for recycled materials. In particular, markets for recycled materials are paramount; without robust markets, the system fails.

⁷ Total Environment Centre (2023) '[Review: Australian Container Refund Schemes](#)', TEC website, p. 11, accessed March 2024.

⁸ Netherlands Enterprise Agency, RVO '[Uitgebreide Producentenverantwoordelijkheid UPV](#)', Business.gov.nl, accessed March 2024.

⁹ Blue Environment (2022) '[National Waste Report 2022](#)', report to the Australian Government Department of Climate Change, Energy, the Environment and Water, DCCEEW website, accessed March 2024.

Case Study 3: REDcycle

REDcycle was an industry-led program operating from 2011 as a broad-based return-to-store, soft plastics recovery program in Australia, facilitating the collection and processing of soft plastics into a variety of durable recycled plastic products. Product manufacturers and major Australian supermarkets partnered with REDcycle to run the program.

In November 2022, REDcycle announced that it was suspending soft plastics collection, as processing capacity for soft plastics and markets for recycled soft plastic products became limited.¹⁰ It was later revealed that REDcycle was stockpiling over 10,000 tonnes of unprocessed soft plastic across dozens of locations Australia-wide.¹¹ In February 2023, REDcycle was declared insolvent, reflecting broader limitations of the recycling system for soft plastic.

As a product stewardship scheme, REDcycle was fuelled by strong marketing and collection rather than a robust recycling supply chain and stable end markets. In a market environment where the production of new plastics is still far outstripping the demand for recycled materials, the collapse of REDcycle underscores the importance of scrutinising the operational aspects of product stewardship schemes to ensure they are capable of fulfilling their objectives and contribute meaningfully to circular economy outcomes.

The failure of REDcycle has had a broad impact on public confidence in recycling, with the media often calling into question the effectiveness of Australia's broader recycling system, demonstrating that the reputation of the recycling industry (rather than manufacturers) is most severely compromised by poorly designed schemes.

Currently, many voluntary and co-regulated product stewardship schemes frustrate higher-order recycling outcomes by compounding a disconnect between manufacturers and recyclers, rather than fostering partnership. This divide persists partly because manufacturers are hesitant to bear the entire expense of recycling, which is not a cheap process in Australia, entailing higher costs than other countries in the region due to factors including labour, energy, logistics and stringent regulations protecting the environment and human health. Despite the challenges, the recycling sector remains indispensable in fostering sustainability and responsible material management.

Often, scheme administrators prioritise the establishment of a scheme as an end in itself, with a great portion of funding dedicated to administration, rather than actual and viable recycling. This emphasis on scheme establishment rather than delivery of robust outcomes, leads to many inefficiencies, particularly in crossover markets, as well as aggregation, and overall administration. In this sense, scheme administrators can create duplicative systems, adding cost to recycling systems without adding value.

Product stewardship and extended producer responsibility

'Extended producer responsibility (EPR)' and 'product stewardship' refer to management approaches that emphasise producer responsibility for end-of-use outcomes for the materials and products they place on market. The terms are often used interchangeably as the sector matures and related initiatives expand and proliferate, which can create confusion among stakeholders.

For the purposes of this paper, product stewardship will be used to refer to both EPR and product stewardship unless stipulated otherwise—with a specific focus on voluntary and co-regulated schemes.

Whether EPR, or voluntary or mandatory product stewardship, or neither, is the correct approach for managing a product at end-of-use will be determined by the nuances such as the material's inherent value and properties, the maturity and economic viability of the recycling supply chain and end markets, and existing policy and regulation.

¹⁰ Australian Competition and Consumer Commission (30 March 2023) '[Cooperation proposed to continue on soft plastics recycling after REDcycle liquidation](#)', ACCC website, accessed March 2024.

¹¹ Miles, Daniel (30 November 2023) '[One year on from REDcycle's collapse, Australia remains without soft plastics recycling program](#)', ABC News website, accessed March 2024.

What is extended producer responsibility?

Extended producer responsibility (EPR) places legal obligations on manufacturers, importers, or brand owners to take responsibility for the end-of-use management of their products. If enacted properly, it can be an effective way to ensure recyclability and fund recycling efforts. EPR schemes can mandate that brand owners take financial or operational responsibility for the collection, reuse, recycling, or safe disposal of their products at the end of their useful life.

Broader application of EPR can support greater resource efficiency if carefully implemented to avoid perverse outcomes. There must be transparency, meaningful and enforceable targets, continuous improvement and the input and involvement of the recycling industry, with EPR designed to work within, and improve, existing recycling systems.

What is product stewardship?

Product stewardship schemes can be voluntary, co-regulated or mandatory initiatives, where stakeholders engage in programs or initiatives to reduce the environmental footprint of products. Product stewardship can devolve producer responsibility for managing the lifecycle impacts of products onto a broader pool of stakeholders, particularly retailers, consumers and recyclers.

Currently, product stewardship schemes in Australia largely cater to the brand owners above the interests of the rest of the supply chain, which contains inherent risks and can result in poor environmental outcomes, for both product stewardship schemes and EPR. These concerns are shared by the Bureau of International Recyclers (see Case Study 4).¹²

It has become increasingly apparent that many EPR and product stewardship schemes have not sufficiently met expected targets,¹³ and too much power given to only one type of stakeholder has resulted in opaque schemes lacking checks and balances and leading to poor environmental outcomes (see Case Study 9).

Case Study 4: Bureau of International Recyclers Position on Extended Producer Responsibility¹⁴

The Bureau of International Recycling (BIR) is a global federation supporting the interests of the recycling industry. BIR represents over 30,000 companies across 70 countries, through 37 national associations and over 1000 direct corporate members, covering eight material streams, including ferrous and non-ferrous metals, paper, textiles, plastics, tyres/rubber, and electrical/electronic equipment.

In 2023, BIR released a position paper on EPR highlighting growing international concern from recyclers about EPR. Key recommendations outlined in their statement include:

- EPR schemes must not disrupt existing efficient markets, and should be set up only when there is a need and only once the effectiveness and the intrinsic value of a waste stream have been assessed;
- governments should also consider other policy instruments to increase circularity, such as mandatory design for recycling and legally-binding recycled-content targets;
- recyclers should be involved in the governance bodies of such schemes to ensure an appropriate balance of interests among the most relevant stakeholders in the value chain, and;
- ownership of waste should be retained by the recycling company entrusted with the responsibility of processing the waste, with transparent and fair tenders to avoid monopolies and comply with competition rules.

¹² Bureau of International Recycling (November 2023) '[BIR Position Paper on Extended Producer Responsibility \(EPR\)](#)', BIR website, accessed March 2024.

¹³ Many product stewardship schemes do not report outcomes. Of those schemes required to do so, APCO has reported that the 2025 National Packaging Targets are on track but will not be met: APCO (2023) '[Australian packaging material flow analysis for 2020–21](#)', APCO website, accessed March 2024.

¹⁴ Bureau of International Recycling (November 2023) '[BIR Position Paper on Extended Producer Responsibility \(EPR\)](#)', BIR website, accessed March 2024.

Recyclers: The missing link in strong product stewardship outcomes

Critical problems arise when a key part of the scheme supply chain is unable to meaningfully engage on costs, logistics, and the state of end markets. While product stewardship schemes are intended to operate with all stakeholders working in concert, this is often not the case. In particular, recyclers and remanufacturers are not sufficiently involved in the establishment or ongoing operations of schemes.

Recyclers can highlight challenges and opportunities in the recycling process, such as recyclability of materials, components that help or hinder the recycling stream and markets for recycled materials. They are also positioned to provide expertise into efficient collection, sorting, quality control and processing methods, improving the overall effectiveness of the stewardship scheme and reducing contamination in recycling streams.

Currently, recyclers and remanufacturers are under-represented on boards across product stewardship schemes. Of the thirteen co-regulated and Government-accredited voluntary schemes in Australia, only five publicly disclose their governance arrangements, and of those, only two show recyclers on the board (as shown in *Appendix 1: Governance arrangements of Australian Government-accredited schemes*).

The involvement of recyclers in the governance of product stewardship schemes can help to ensure that recycling is economically viable and drive market demand for recycled materials. With rising costs across recycling facilities, it is particularly critical that recyclers are at the table to highlight market failures, to inform whether, and when, intervention through a product stewardship scheme is necessary.

Case Study 5: Tyre Product Stewardship Scheme

Tyre Stewardship Australia (TSA), which commenced in 2014, raises a 25 cent per tyre levy from participating tyre manufacturers, amounting to \$7.6 million in 2023. These funds are distributed across three primary functions: research and development for new end-of-life-tyre (EOLT) products; an accreditation program for collectors, recyclers and retailers; and consumer marketing.

TSA is a manufacturer-led and governed organisation. There is no recycling industry representation on the board and little overall strategic engagement with the recycling sector. TSA has no role in the collection and recycling of EOLTs, and no funds from the scheme are provided to the sector. In the year ending June 2023, while TSA's levy income increased by 20%, spending on market development dropped to one-quarter of the company's spending (47% went to consultancy expenses, advertising and marketing).

This lack of engagement with the recycling sector has led to some ill-informed decisions. For instance, by accrediting 'balers' (the cheapest disposal option for tyre retailers), prior to the Australian Government's ban on the export of whole baled tyres, TSA effectively endorsed many millions of unprocessed EOLTs to be exported to developing countries in our region and to very poor environmental outcomes such as open burning.

The ACCC recently acknowledged concerns raised by sector stakeholders in relation to the effectiveness of the scheme, citing insufficient representation on the TSA board, particularly in relation to the tyre recycling sector.¹⁵ Stakeholders identified further concerns stemming from this lack of representation, including the accreditation, under the scheme, of businesses that were uncompliant with scheme objectives, and insufficient oversight of unprocessed EOLT's exported overseas.

ACCC- and Government-endorsed product stewardship schemes are often called on to speak as authorities on recycling, or are credited with recycling outcomes. TSA, for example, points to increased EOLT recovery rates since the scheme's formation as demonstration of its success; however, this change should more appropriately be credited to tightened state-based regulation: over the same time period, every state substantially reformed regulation of the storage, transportation, fire safety, end-of-use disposal and other environmental management aspects of EOLTs. Together, these regulatory changes provided an impactful disincentive to stockpiling EOLTs and fostered increased recycling investment and activity.

TSA is lobbying the Australian Government to intervene in the sector via regulated product stewardship, despite a 97% collection rate for used passenger and commercial tyres. Since state regulations to limit stockpiling and illegal dumping have been effective, it is unclear what environmental outcome a regulated scheme would deliver.

¹⁵ Australian Competition and Consumer Commission (May 2018) '[ACCC re-authorises Tyre Stewardship Scheme](#)', ACCC website, accessed January 2024.

Scheme accountability

Government-backed schemes must deliver genuine circular economy and recycling outcomes. One way to deliver meaningful outcomes is to ensure that schemes are advancing progress towards the targets in the National Waste Policy Action Plan and Australia's 2025 Packaging Targets,¹⁶ specifically:

- reducing the total waste generated in Australia by 10% per person by 2030
- achieving an 80% average recovery rate from all waste streams by 2030
- phasing out problematic and unnecessary plastics by 2025
- halving the amount of organic waste sent to landfill by 2030
- 100% of packaging being reusable, recyclable or compostable by 2025
- 70% of plastic packaging being recycled or composted by 2025
- 50% of average recycled content included in packaging by 2025.

Accountability at present is insufficient to ensure best-practice operations and high-value recycling outcomes. A history of self-reporting with little benchmarking or consideration for tangible targets appears to have fostered a culture of accepting any increase in material collection as 'success' of some schemes (see Case Study 5). This self-reported data often goes unchallenged, even where issues are brought to the ACCC's attention, leading to reduced confidence and ultimately constraining investment in new recycling capacity and capability.¹⁷

Product stewardship schemes in Australia are also able to run their own accreditation programs for recyclers, establishing specific criteria and standards that recyclers must meet to participate in their schemes. These criteria typically focus on factors such as operational processes, compliance with regulations, the ability to meet quality standards for recycled materials, and (ideally) environmental impact. Recyclers seeking accreditation usually undergo assessments, audits, and evaluations to ensure they meet these set standards before being approved to participate in the product stewardship schemes.

These 'bespoke' accreditation programs for recyclers represents a conflict of interest insofar as the priority of schemes is to keep recycling costs low, rather than ensure best-practice recycling outcomes (see Case Studies 7 and 9). This is costly and inefficient for both recyclers and brand owners, given that some recyclers service more than one scheme and are therefore required to be separately accredited. For example, in the mandatory National Television Computer and Recycling Scheme, recyclers must be approved by each and every co-regulator that they supply, resulting in duplication of effort.

Product stewardship schemes must ensure transparency, accountability and effectiveness. In particular, schemes that are accredited by the Australian Government must be required to meet a much higher standard of governance, transparency and material outcomes.

ACCC leverage and access

Federal accreditation is a six-month process that enables industry-led product stewardship operations to demonstrate to businesses and consumers that the arrangement has the Australian Government's stamp of approval.¹⁸

An ACCC authorisation can also be granted, where schemes can be exempted from competition provisions—such as those guarding against anti-competitive and cartel-like behaviours—and the ACCC may grant protection from legal action for conduct that might otherwise breach the *Competition and Consumer Act 2010* (the Act). Schemes seek authorisation where they wish to engage in conduct that is at risk of breaching the Act but nonetheless consider there to be public benefit.

¹⁶ Department of Climate Change, Energy, the Environment and Water (2019, 2022) '[National Waste Policy Action Plan 2019](#)', DCCEEW website, accessed March 2024.

¹⁷ Australian Tyre Recyclers Association (2 February 2024) '[Authorisations register: Tyre Stewardship Australia Limited](#)', submission, ACCC website, accessed March 2024.

¹⁸ Department of Climate Change, Energy, the Environment and Water (March 2023) '[Product stewardship accreditation](#)', DCCEEW website, accessed March 2024.

Since product stewardship should align with broader public interest by promoting sustainability, reducing waste, and safeguarding environmental and public health, ACCC authorisation affords schemes access to a suite of anti-competitive instruments,¹⁹ such as:

- cartel conduct,
- contracts, arrangements or understandings containing anti-competitive provisions,
- exclusive dealing,
- misuse of market power,
- secondary boycotts, and
- resale price maintenance.

While ACCC authorisation can support the delivery of public benefit through a product stewardship scheme, some schemes have elicited commercial in-confidence data from the recycling industry through their ACCC authorisation, which has subsequently been used to benefit brand owners of the scheme, rather than support a whole-of-supply-chain stewardship outcome.²⁰ Some schemes also seek to conflate the achievements of the recycling sector with those of the scheme (see Case Study 5).

¹⁹ Robert Janissen (3 September 2021) '[ACCC Authorisation for product stewardship schemes](#)', webinar, Product Stewardship Centre of Excellence website, accessed March 2024.

²⁰ Australian Tyre Recyclers Association (2 February 2024) '[Authorisations register: Tyre Stewardship Australia Limited](#)', submission, ACCC website, accessed March 2024.

Recommendations

1. Rethink and restructure product stewardship

While product stewardship and EPR schemes can have positive outcomes if operated fairly and transparently, to ensure best practice there needs to be greater critical consideration of the market conditions and alternative approaches before new product stewardship schemes are established.

Consideration should be given as to whether product stewardship should be the only mechanism to be instituted. Other effective mechanisms, such as higher landfill levies, landfill bans, product bans and the enforcement of existing regulation, will be effective in some sectors, and often more cost-effective. Many of these policy mechanisms are blunt instruments that do not place responsibility and costs on the brand owner. EPR should be considered amid this range of policy options, and prioritised where adequate funding is not available for optimum end-of-life solutions, or where there is significant market failure.

Product stewardship schemes should be considered as a mechanism to support the development of infrastructure and markets for recycled materials, encourage correct collection, and increase end producer responsibility. If a robust end market exists with adequate investment in recycling and resource recovery, a scheme could, where appropriate, be wound down.

Product stewardship schemes are more appropriate and effective when applied to new recycling supply chains—or where collection and recycling rates are low—rather than retrofitting to mature recycling markets. Uncertainty about how new schemes might be established will deter investment in particular material streams, with a potential domino effect on investment confidence across broader recycling streams. There is a need for clarity about where the Australian Government will, and will not, intervene, with a priority of engaging closely with the recycling sector to ensure that domestic investment is not disrupted or undermined.

A product stewardship scheme ‘Trigger Framework’ could define clear parameters about when a scheme should be initiated for a product, or whether a new product or category should be added to an existing scheme in order to improve efficiency and minimise duplication of effort. Ensuring all parties in the supply chain know schemes will be triggered once a set of transparent criteria are met—alongside consultation with relevant supply chain stakeholders, including the recycling sector—will foster market and investment confidence.

While end markets are key to driving recycling, there will often remain a recycling cost to be covered by a credible scheme that distributes risk equitably across the supply chain. In sectors where there are low recovery rates, or the free market does not support an economically viable recycling system, levies must represent the real cost of recovery and recycling, take into consideration different recycling outcomes that can deliver lower and higher value outputs, and support recycling development innovation.

Scheme funding that falls short of covering the cost of recycling fundamentally undermines genuine recycling outcomes.

RECOMMENDATION 1.1 ‘Trigger Framework’ to determine when a product stewardship scheme is required

In consultation with recyclers, brand owners and sector experts, the Australian Government should **establish a transparent ‘Trigger Framework’** to determine when a product stewardship scheme becomes necessary: when certain market conditions exist or recovery rates stagnate or fall. This framework must include consultation with all supply chain stakeholders, particularly recyclers.

Attached to the ‘Trigger Framework’, an **exit conditions metric should be outlined for every new scheme**, dictating under what economic and environmental conditions and recycling rates a scheme could be wound down, repositioning some schemes as tools for market rehabilitation and not an end in themselves.

RECOMMENDATION 1.2 Assess and embed actual costs of recovery and recycling

Ahead of endorsing any product stewardship or EPR scheme, the Australian Government should work with the recycling sector to conduct a comprehensive assessment of the **actual costs of recovery, recycling and remanufacture** of relevant material streams. This assessment should consider the entire recycling value chain, including collection, logistics, sorting, processing and markets for recycled materials, and would inform appropriate scheme fees and financing.

Governments must ensure that extended producer responsibility measures undertaken by product stewardship schemes address actual costs of recovery and recycling, support genuine and highest-value recycling outcomes, and investment in Australian recycling.

2. Design for recycling and reuse

One of the biggest challenges to material recovery at end of use is poor design. A key component for every product stewardship scheme must be to ensure that brands and brand owners design for better material recovery and reuse, with a priority of procuring recycled materials.

Around the world, innovative closed-loop solutions are being deployed independently of product stewardship schemes. For example, an aid in the correct sorting of materials for reuse is the ‘materials passport’.²¹ Through smart material choices and designing for disassembly, these materials passports will make it possible for manufacturers to recoup some of their original investment, as materials can be sold back into the supply chain, and ultimately used again.

Case Study 6: Materials Passport and Venlo City Hall

In the Netherlands, a ‘materials passport’ innovation was deployed during the construction of Venlo City Hall. The passport records exactly what goes into the building, and will support the correct sorting of materials for reuse.

All components of the building were documented during construction in a materials database—or ‘materials passport’—that describes the materials and provides an end-of-use plan, such as how to disassemble and recycle or return them to the manufacturer. By effectively creating a materials bank within the walls of the City Hall and designing for disassembly, it will be possible to recoup some of the original investment, at a later date, as materials can be sold back to manufacturers through a ‘buy and buy-back’ scheme, and ultimately used again.²²

Furthermore, during its construction numerous producers and suppliers acquired Cradle to Cradle (C2C) certifications for their products.²³

It is understood that relatively few products are manufactured in Australia; however, given that all products distributed in Australia ultimately enter into Australian waste streams, it is vital that schemes implement measures to influence design for the Australian market.

Adopting more robust EPR regulations enforces producer responsibility for the entire lifecycle of their products, including collection, recycling, and remanufacture. This, in turn, encourages the design of products that are easier to disassemble, reuse, or recycle.

RECOMMENDATION 2.1 Federal EPR legislation, initiated by ‘Trigger Framework’

The Australian Government should **implement Extended Producer Responsibility legislation** that holds manufacturers responsible for the end-of-use management of their products, to encourage circular design and increase the demand for recycled materials. This EPR legislation should only be initiated when conditions of a **‘Trigger Framework’** (RECOMMENDATION 1.1) have been met.

²¹ Cradle to Cradle, ‘[City Hall Venlo](#)’, C2C Venlo website, accessed March 2024.

²² Ellen Macarthur Foundation (June 2021) ‘[City Hall from Cradle to Cradle: Venlo](#)’, Ellen Macarthur Foundation website, accessed March 2024.

²³ Kraaijvanger Architects, ‘[Municipal Office Venlo](#)’, Kraaijvanger website, accessed March 2024.

RECOMMENDATION 2.2 Evidence-based targets for recyclability, with targets increasing over time

Overseen by the Australian Government, product stewardship schemes should set **evidence-based targets** for reuse and recyclability within product categories that are reusable/recyclable and those that are not. Targets for reusability and recyclability should increase over time, with measures in place to hold brand owners and distributors to account.

3. Create market demand

Too often, product stewardship advocates appear to consider the establishment of a scheme as an end in itself—in terms of meeting sustainability obligations—rather than a means to this end. A thriving and scaled recycling sector is an essential component of a functioning circular economy—and recycling cannot function without robust markets for recycled materials.

Theoretically, anything is recyclable, but recycling at scale must be economically viable, addressing the cost of Australian labour, logistics, compliance, infrastructure, research and development, and, most critically, supporting end markets for recycled materials.

Case Study 7: *Seamless*

Australians are the second-largest consumers per capita of textiles globally, purchasing on average an estimated 27 kilograms of new fashion and textiles each year, of which on average 93% is disposed of.²⁴ In 2018–2019, 227,000 tonnes of clothing were landfilled in Australia, 105,900 tonnes were exported, 51,000 tonnes were reused locally, 7,000 tonnes were recycled and 5,000 tonnes went to waste to energy.

The Australian Fashion Council clothing product stewardship scheme, Seamless, launched in June 2023. The Board was announced in December 2023,²⁵ with no representation from the recycling sector.

The scheme design outlined a proposal to reduce this consumption and waste by raising a levy of 4 cents per garment to be invested in education, scheme administration, and research and development²⁶.

This levy does not adequately address the costs of recycling and the scheme design in fact risks potentially locking in a status quo arrangement in the fashion industry: restricting trade and access to feedstock, and remuneration for recyclers.

The scheme design does not address the economic and regulatory mechanisms necessary to drive resource recovery: there are no identified end markets for recycled products generated by the scheme and no firm work plans to develop these markets; no restrictions on the export of textile waste; no landfill bans (noting that some participants are entitled to a waste levy exemption); and insufficient funding for higher-order recycling.

Under the current design, Seamless will likely raise revenue from consumers while increasing export revenue from used textiles (including textile waste), without increasing Australian recycling rates.

There are significant barriers to strong market uptake of recycled material, including cost competitiveness with virgin materials and willingness within the supply chain to embrace change. To date, an uneven approach has been taken by the Australian Government, with a focus on banning the export of ‘waste’ without measures to address imported products that ultimately enter Australian waste streams. Conversely, there are no drivers to address the import of products that ultimately all become Australian waste, at end of use, as well as imported virgin and recycled materials that compete with Australian recycled products.

While there must be strong prioritisation of domestic end markets, export markets for processed recycled commodities should be recognised as a legitimate avenue, akin to any other exported commodity, noting that the focus must be on domestic processing.

²⁴ Monash Sustainable Development Institute (2022) [‘Textiles: A transitions report for Australia identifying pathways to future proof the Australian fashion and textile industry’](#), report, p. 6, Monash University website, accessed April 2024.

²⁵ Australian Fashion Council (18 December 2023) [‘Seamless announces inaugural CEO and Board of Directors’](#), media release, Australian Fashion Council website, accessed February 2024.

²⁶ Australian Fashion Council (2023) [‘Scheme Design Summary Report’](#), Australian Fashion Council website, accessed February 2024.

Establishing a circular economy underpinned by a strong recycling sector will require the correct economic drivers. For example, mandated recycled plastic content in the United Kingdom has catalysed investment in recycled polymers by creating market demand.²⁷ Requiring manufacturers to use a certain percentage of recycled content in their products has created a stable market for recycled polymers, encouraging investment in recycling infrastructure and technologies to meet this demand.

In Australia, many in the recycling industry advocate for the mandatory implementation of the 2025 National Packaging Targets set out in the Australian Packaging Covenant Organisation. In 2023, the Australian Government committed to regulate packaging and ultimately enforce these targets:²⁸ the creation of robust end markets by 2025, ensuring that packaging incorporates 50% recycled content on average, and achieving 100% reusability, recyclability, or compostability.²⁹ While not yet defined, it is anticipated that the scope of this regulation will encompass all packaging sold in Australia, accompanied by consistent benchmarking and transparent reporting.

Formal government adoption of these targets would provide substantial backing for a flourishing, competitive recycling sector by mandating recycled content in packaging. This would support the integration of recycled products and materials into supply chains, fostering resilient and strong end markets.

Circular agreements can also play a useful role in fostering downstream end markets.³⁰

RECOMMENDATION 3.1 Robust end markets for Australian recycled content

Product Stewardship schemes must prioritise **demand generation** and play an active and specific funded role in directly supporting robust and viable end markets for Australian recycled materials.

RECOMMENDATION 3.2 Economic incentives for use of recycled materials

The Australian Government should create **economic incentives** for using recycled materials, such as tax incentives, subsidies, grants, or differentiated regulatory fees, which can offset the cost difference between recycled and virgin materials, making the use of recycled materials more financially attractive for businesses. Incentives to use recycled materials specifically derived from product stewardship schemes should be considered.

RECOMMENDATION 3.3 Minimum thresholds for Australian recycled content

All Governments should implement strong drivers and mandated procurement targets to support uptake of Australian recycled content, such as a **price signal** to prioritise Australian recycled content over virgin materials and mandatory **minimum thresholds for Australian recycled content**.

RECOMMENDATION 3.4 Certification and labelling for Australian recycled content

The Australian Government should work with industry to **establish certification and labelling programs** that identify products made from recycled materials to help consumers make informed choices and increase demand by driving manufacturers to incorporate more recycled content.

RECOMMENDATION 3.5 Target dumped and subsidised imported material

The Australian Government should support a level playing field for the Australian recycling market by more **strongly targeting dumped and subsidised imported materials**.

²⁷ NetZero Pathfinders, '[Recycled Content Mandates: U.K.](#)', Bloomberg website, accessed March 2024.

²⁸ Department of Climate Change, Energy, the Environment and Water, '[Reforming packaging regulation](#)', DCCEEW website, accessed March 2023.

²⁹ APCO, '[Australia's 2025 National Packaging Targets](#)', APCO website, accessed March 2024.

³⁰ Steve Morriss (1 February 2024) '[Circular Contracts: The future of recycling](#)', Close the Loop blog, accessed March 2024.

4. Enhance collection infrastructure and consumer incentives

While some product stewardship schemes have achieved desirable collection rates for end-of-use items, this is not the case across all product categories. Schemes that provide little incentive for consumers to return items to away-from-home collection points, and/or haven't supported a comprehensively accessible and well-marketed collection network, generally have poor collection rates.³¹

Of major concern are items that pose a risk across all other collection and recycling streams, such as those containing loose or embedded batteries which cause fires in waste and recycling trucks and facilities. The rapid digitisation and electrification of everyday items, the increasing number of 'smart' and disposable items such as vapes containing embedded and sealed batteries, and a lack of consumer education around their safe collection, have all contributed to the steep and hazardous rise in batteries in inappropriate waste streams.³²

There is considerable confusion about which items contain batteries and which schemes different electronic products are subject to. For example, it is not widely understood that vapes and digital thermometers contain batteries. Also, while there are an array of schemes addressing electronic and electrical products—including the mandatory National Television Computer and Recycling Scheme (NTCRS), the voluntary Mobile Muster scheme, and the voluntary B-cycle scheme—many items are not accepted by any of these schemes, leaving gaps for necessary collection and creating confusion in the community about appropriate disposal options.

Despite this critical lack of access to safe collection locations for these items, to date no comprehensive geographic mapping of the gaps has been undertaken. Even with a product stewardship scheme in place, if there are limited accessible safe disposal avenues, the only options for the community are to stockpile, litter or dispose into incorrect waste streams.

Not only is there insufficient infrastructure to collect such items safely and comprehensively, but there are also no compelling drivers to divert these types of products from conventional recycling streams (such as household bins), resulting in major hazards across the recycling sector.

As the Australian Government reviews the framework for e-stewardship, it is essential that all e-products (including those with batteries) are addressed holistically, rather than the current piecemeal approach.

There must be comprehensive access for collection, as well as compelling incentives for consumers to return items to appropriate drop-off locations—especially items that pose a risk to human health, the environment or conventional waste and recycling systems.

Highest-value recycling outcomes are achieved through well-sorted and separated recovered products and materials.

At a consumer level, there must be a strong incentive to safely dispose of these products through the introduction of a refund or deposit scheme, similar to container deposit schemes. This will help to drive the correct collection of products at end of use, which is critically important for items that are hazardous, such as loose and embedded batteries. Concerns that a refund on batteries might expose consumers to risk can be addressed by ensuring that refunds are contingent on safe collection practices and appropriate community education.

³¹ For example, in 2023, B-cycle's collection rate of in-scope loose batteries was 12%. See B-cycle (July 2023) '[Positive Charge: 2022–2023 Report](#)', B-cycle website, accessed March 2024.

³² ACOR (December 2023) '[A Burning Issue: Navigating the battery crisis in Australia's recycling sector](#)', ACOR website, accessed March 2024.

Case Study 8: B-cycle

B-cycle, which launched in January 2022, is an ACCC-authorized product stewardship scheme for loose batteries, run by the Battery Stewardship Council.

The B-cycle scheme accepts all small loose and easily removable batteries, including regular AA and other sizes, button batteries, rechargeable batteries, and small removable batteries from devices like hearing aids, power tools, e-bikes and digital cameras, but does not accept embedded batteries, batteries over 5 kilograms, mobile phone or laptop batteries, lead acid batteries or exit lighting. Not all loose batteries are within the scope of the scheme, and determining which batteries are in or out of scope remains confusing even for those working in the sector.

The authorisation by the ACCC identified that a levy would be applied to imported batteries at a rate of 4 cents per 24 grams, and would be used to fund the scheme and a rebate system for service providers responsible for the battery's collection, sorting and processing. However, the scheme only applied a 2 cent levy at its inception, raising this amount to 3 cents in 2022 and subsequently applying the 4 cent levy at the beginning of 2024.³³

Meanwhile, Australia's battery recyclers have identified that the B-cycle funding for recycling is insufficient.³⁴ In 2023, the collection rate was 12% of loose in-scope batteries.³⁵

Some battery manufacturers and retailers are in competition with B-cycle, in an effort to pursue better recycling outcomes more efficiently. Those who independently pay for their batteries to be recycled can achieve higher-value outcomes by paying the recycler directly, rather than paying a levy to B-cycle on one hundred per cent of products for the lower rate of recycling.

RECOMMENDATION 4.1 Expand the scope of mandatory e-stewardship, incorporating all consumer electronic and electrical equipment and loose and embedded batteries into one comprehensive scheme

The Australian Government should **expand the scope of mandatory e-stewardship, incorporating all consumer electronic and electrical equipment into one comprehensive scheme**—including any product connected to a plug or that contains batteries, as well as all loose and embedded batteries, to bring Australia into line with European standards.

RECOMMENDATION 4.2 Gap analysis of disposal options for all electronic and hazardous waste streams

State and Territory Governments must conduct a detailed **gap analysis of disposal options for all electronic and hazardous waste streams**, to help inform future schemes and policy decisions.

RECOMMENDATION 4.3 Comprehensive network of safe disposal sites

State and Territory Governments must ensure that **a comprehensively accessible network of safe disposal options is provided to all Australians** for materials that are hazardous in conventional waste and recycling streams, such as loose and embedded batteries, supported by strong community education campaigns.

RECOMMENDATION 4.4 Incentivise safe battery collection with deposit refund

Product stewardship schemes must strongly incentivise safe collection of batteries at end of use by **introducing a deposit refund for safe disposal at appropriate collection points**.

³³ Battery Stewardship Council (December 2023) '[Circular Batteries Australia Position Paper](#)', p. 7, B-cycle website, accessed March 2024.

³⁴ Lisa Korycki (29 February 2024) '[Ecocycle flags e-waste recycling challenges](#)', *Waste Management Review*, accessed March 2024.

³⁵ B-cycle (July 2023) '[Positive Charge: 2022–2023 Report](#)', B-cycle website, accessed March 2024.

5. Tighten scheme governance

Governments and industry are increasingly relying on product stewardship schemes to meet circular economy principles. A properly functioning circular economy requires participation from every stage of the supply chain. Currently, these schemes typically represent only one stage of the circular economy supply chain: producers and distributors (also known as brand owners).

Many existing product stewardship schemes are not neutral bodies, but rather reflect the interests of brand owners over the rest of the supply chain, including recyclers. To effectively deliver a circular economy, product stewardship schemes must have a governance structure that equitably represents every stage of the supply chain.

Product stewardship schemes often exclude the recycling sector—tasked with delivering the scheme’s ultimate outcomes—from meaningful participation in scheme governance, development and design. It is essential that the entire supply chain should participate in establishing a scheme’s goals and ongoing operation, through adequate representation on scheme boards.

Stakeholder governance is increasingly acknowledged as a path for organisations to better address environmental, social and governance (ESG) considerations,³⁶ with conflicts of interests addressed through compliance with director’s responsibilities, including fiduciary duties.³⁷ Scheme governance can also include community and council representatives. An independent chair may also help to address producer dominance of schemes.

Effective stakeholder representation in product stewardship scheme leadership is particularly pressing in light of the ACCC’s recently prioritised focus on environmental claims, and given that every product stewardship initiative aims to collect and recycle their products. Schemes must deliver genuine recycling outcomes in order to support a circular economy and community confidence in recycling.

Transparent, objective and consistent data and reporting is also required to assess scheme efficacy against rigorous targets.

RECOMMENDATION 5.1 Supply-chain representation in product stewardship scheme governance

Product stewardship schemes must have **supply-chain representation within their governance structures**. This should comprise an independent Chair, and a Board that includes representatives and expertise from all stages of a circular supply chain, with equal decision-making powers and formal channels to provide expertise. Recycling industry representation should be proportionate to the operational costs borne for the actual recycling of the product waste stream.

RECOMMENDATION 5.2 Recycling sector expert convenor to engage product stewardship schemes with recycling sector

To address RECOMMENDATION 5.1, establish and adequately resource a **recycling sector expert convenor**, under the auspice of the Australian Council of Recycling, to facilitate engagement with subject matter experts and leaders in the recycling sector and provide guidance and board directors to schemes.

³⁶ Zishu Chen (June 2022) [‘Corporate governance: Meet the new champions of stakeholder capitalism’](#), World Economic Forum website, accessed March 2024.

³⁷ Various frameworks and guidelines set out directors’ responsibilities regarding environmental outcomes, including the European Commission’s [Corporate Sustainability Due Diligence Directive](#), the UN’s [Guiding Principles on Business and Human Rights](#), and the OECD’s [Guidelines for Multinational Enterprises](#) and [Due Diligence Guidance for Responsible Business Conduct](#).

RECOMMENDATION 5.3 Clearly defined and measurable objectives, rules and targets

Schemes should have **objectives, rules and targets that are clearly defined and measurable**, to track progress, evaluate the effectiveness of the scheme, and make necessary adjustments over time. Well-defined metrics—especially regarding recycling and scheme compliance from all parts of the supply chain—will identify areas for improvement and highlight successes.

RECOMMENDATION 5.4 Transparent data about objectives, decision-making processes, recovery rates, recycling outcomes and material movement

All stakeholders should have access to information about the scheme’s objectives, decision-making processes, recovery rates, recycling outcomes and material movement, reported at a state level. This transparency helps prevent conflicts of interest when tendering for services and ensures that the scheme’s actions align with its intended goals.

RECOMMENDATION 5.5 Ensure that the scheme’s objectives are met with accountability measures

Stakeholders within schemes should be incentivised to actively participate in and contribute to the circular economy, particularly recycling. There must be **mechanisms for holding participants accountable** to commitments and actions in place to ensure that the scheme’s objectives are met.

6. Enforce compliance and consequences

Ensuring compliance with existing regulations must be a priority to increase recycling rates, along with a harmonised accreditation scheme that supports best-practice recycling outcomes.

‘Bespoke’ accreditation systems for schemes effectively lead to schemes self-reporting, while creating excessive costs and inefficiencies for both recyclers and brand owners.

Conflict of interest can also go unchecked when schemes develop their own accreditation systems for recyclers, for example, by emphasising cost-cutting measures over high-quality results.³⁸ Scheme accreditations can introduce uncertain and untrustworthy data, undermining confidence and ultimately limiting investments in expanding new recycling capacities and capabilities.

ACOR has scoped the value of a national accreditation program for Australian recyclers, and is now working with industry and government to advance the establishment to provide a framework for independent, objective and consistent assessments that determine whether a recycling site is operating to a specified standard in a secure, sustainable and resilient manner.

While it is crucial to ensure that recyclers are operating legitimately, it is also a priority to address the fragmented, variable and duplicative regulatory environment across Australia’s States and Territories. There must be a nationally harmonised resource recovery framework to prioritise circular economy outcomes, define ‘end of waste’ and support investment confidence in recycling. There must also be much more effective enforcement of Australia’s waste export regulation and a broadening of this regulation to address other materials—including textiles and unprocessed scrap metal—to ensure that Australia’s international environmental duties are met, and Australia’s recycling capabilities are supported. The cost of this regulation should be placed on producers and distributors, who are responsible for the products placed on market, not on the recycling sector.

³⁸ For examples, refer to the included case studies.

Case Study 9: National Television and Computer Recycling Scheme

The National Television and Computer Recycling Scheme (NTCRS),³⁹ established in 2011, provides collection and recycling services for televisions and computers, including printers, computer parts and peripherals. The scheme is intended to reduce e-waste to landfill, increase the recovery of reusable materials, and provide convenient access to recycling services for households and small businesses.

Companies who import or manufacture television and computer products over certain thresholds are liable under the scheme, and are required to pay for a proportion of recycling through membership in an approved co-regulatory arrangement. These five co-regulators are responsible for the day-to-day operation of the scheme, including organising collection and recycling of e-waste on behalf of brand owners (known as liable party members within the NTCRS).

However, the NTCRS has become an inefficient system with a two-tiered marketplace: the five co-regulators compete to offer the lowest fees to brand owners, forcing prices down to unsustainable levels, while recyclers are reduced to price-takers. The NTCRS has become a 'race to the bottom' for some brand owners at the expense of best-practice recycling and environmental outcomes.

The drive towards low-cost outcomes has incentivised some co-regulators to reduce accessibility, or compromise on material recovery rates. There is little transparent downstream verification or reporting of recycling outcomes: audits in the NTCRS are primarily financial audits, with cursory attention to operational elements.

The Department of Climate Change, Energy, the Environment and Water is currently leading a redesign of the NTCRS to broaden the parameters of e-stewardship regulation to likely include all small electrical and electronic products as well as solar photovoltaic systems. The revised scheme must address the NTCRS's inefficiencies and inherent conflicts of interest, while driving a properly comprehensive approach to e-stewardship, incorporating all consumer electronic and electrical equipment and loose and embedded batteries.

RECOMMENDATION 6.1 Australian Recyclers Accreditation Program (ARAP)

The Australian Government should support compliance through the implementation and adoption of an **Australian Recyclers Accreditation Program (ARAP)**.⁴⁰

RECOMMENDATION 6.2 Enforce waste export regulations

The Australian Government should more effectively and proactively **enforce existing waste export regulations**, with impactful consequences including fines and imprisonment. The cost of regulation should be placed on producers and distributors, who are responsible for products placed on market.

RECOMMENDATION 6.3 Regulate the export of waste textiles, unprocessed scrap metal and unprocessed e-products

The Australian Government should **expand the existing waste export rules** to specifically address waste textiles, unprocessed scrap metal and unprocessed e-products.

RECOMMENDATION 6.4 Tax incentives or priority access to markets for best-practice recycling facilities

The Australian Government should create incentives, such as **tax incentives or priority access to markets**, for recycling facilities that consistently demonstrate high levels of compliance.

³⁹ Department of Climate Change, Energy, the Environment and Water, '[National Television and Computer Recycling Scheme](#)', DCCEEW website, accessed March 2024.

⁴⁰ Australian Council of Recycling, '[Australian Recyclers Accreditation Program](#)', ACOR website, accessed March 2024.

RECOMMENDATION 6.5 Product stewardship schemes to be subject to third-party audits and/or inspections

The Australian Government should require **regular independent audits** to assess compliance with regulations and internal policies, holding stewardship schemes to greater account via more vigilance, auditing and assessment of claims made by schemes regarding performance, industry data and reporting protocols. **Third-party audits and/or inspections**—underpinned by circular principles—should also be implemented to provide unbiased assessments of compliance and identify areas for improvement.

RECOMMENDATION 6.6 A nationally harmonised resource recovery framework

The Australian Government, together with State and Territory Governments, should **establish a nationally harmonised resource recovery framework**, to prioritise circular economy outcomes, define ‘end of waste’ and support investment confidence in recycling.

Conclusion

This paper has outlined some of the challenges for recyclers in the current operations and mandates of product stewardship schemes. As governments and industries look towards greater product stewardship and extended producer responsibility (EPR) models as a key tool in the circular economy, it is vital that we encourage a more transparent, inclusive and effective dialogue around their establishment and viable operations. Greater collaboration will ultimately lead to product stewardship schemes that deliver more benefits for brand owners, governments, the community and recyclers.

It is essential to the success of any recycling operation, regulation or policy that recyclers and remanufacturers have a seat at the table, and are consulted often and with intention. In product stewardship schemes, brand owners represent only a small fraction of the mechanism, but hold the most authority and decision-making power. As a key part of the supply chain, the recycling, resource recovery, and remanufacturing sector is essential to ensure product stewardship schemes deliver a circular economy. To date, this sector's experience and expertise has largely been overlooked at best, or systematically ignored at worst.

Ultimately, the key recommendations contained in the paper are an offer from our sector to collaborate, share our expertise and find a path forward to work together with government and industry to achieve a thriving circular economy.

Appendix 1: Governance arrangements of Australian Government-accredited schemes

Scheme	Type	Governance arrangements published?	Recycler on Board?
Activ Group	Co-regulated	No	Unknown
ANZRP	Co-regulated	Yes	No
APCO	Co-regulated	Yes	Yes
B-cycle	Voluntary	Yes	Yes
Big Bag Recovery	Voluntary	No	Unknown
EcoCycle	Co-regulated	No	Unknown
Ecoloop	Voluntary	No	Unknown
Ecycle	Co-regulated	No	Unknown
Mobile Muster	Voluntary	No	Unknown
Project Earth (Dulux)	Voluntary	No	Unknown
Seamless	Voluntary	Yes	No
SPS Aust	Co-regulated	No	Unknown
Tyre Stewardship Australia	Voluntary	Yes	No

Appendix 2: Summary of recommendations

1. Rethink and restructure product stewardship

RECOMMENDATION 1.1 'Trigger Framework' to determine when a product stewardship scheme is required

In consultation with recyclers, brand owners and sector experts, the Australian Government should establish a transparent 'Trigger Framework' to determine when a product stewardship scheme becomes necessary: when certain market conditions exist or recovery rates stagnate or fall. This framework must include consultation with all supply chain stakeholders, particularly recyclers.

Attached to the 'Trigger Framework', an exit conditions metric should be outlined for every new scheme, dictating under what economic and environmental conditions and recycling rates a scheme could be wound down, repositioning some schemes as tools for market rehabilitation and not an end in themselves.

RECOMMENDATION 1.2 Assess and embed actual costs of recovery and recycling

Ahead of endorsing any product stewardship or EPR scheme, the Australian Government should work with the recycling sector to conduct a comprehensive assessment of the actual costs of recovery, recycling and remanufacture of relevant material streams. This assessment should consider the entire recycling value chain, including collection, logistics, sorting, processing and markets for recycled materials, and would inform appropriate scheme fees and financing.

Governments must ensure that extended producer responsibility measures undertaken by product stewardship schemes address actual costs of recovery and recycling, support genuine and highest-value recycling outcomes, and investment in Australian recycling.

2. Design for recycling and reuse

RECOMMENDATION 2.1 Federal EPR legislation, initiated by 'Trigger Framework'

The Australian Government should implement Extended Producer Responsibility legislation that holds manufacturers responsible for the end-of-use management of their products, to encourage circular design and increase the demand for recycled materials. This EPR legislation should only be initiated when conditions of a 'Trigger Framework' (Recommendation 1.1) have been met.

RECOMMENDATION 2.2 Evidence-based targets for recyclability, with targets increasing over time

Overseen by the Australian Government, product stewardship schemes should set evidence-based targets for reuse and recyclability within product categories that are reusable/recyclable and those that are not. Targets for reusability and recyclability should increase over time, with measures in place to hold brand owners and distributors to account.

3. Create market demand

RECOMMENDATION 3.1 Robust end markets for Australian recycled content

Product Stewardship schemes must prioritise demand generation and play an active and specific funded role in directly supporting robust and viable end markets for Australian recycled materials.

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The Australian Government should create economic incentives for using recycled materials, such as tax incentives, subsidies, grants, or differentiated regulatory fees, which can offset the cost difference between recycled and virgin materials, making the use of recycled materials more financially attractive for businesses. Incentives to use recycled materials specifically derived from product stewardship schemes should be considered.

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RECOMMENDATION 3.4 Certification and labelling for Australian recycled content

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RECOMMENDATION 3.5 Target dumped and subsidised imported material

The Australian Government should support a level playing field for the Australian recycling market by more strongly targeting dumped and subsidised imported materials.

4. Enhance collection infrastructure and consumer incentives

RECOMMENDATION 4.1 Expand the scope of mandatory e-stewardship, incorporating all consumer electronic and electrical equipment and loose and embedded batteries into one comprehensive scheme

The Australian Government should expand the scope of mandatory e-stewardship, incorporating all consumer electronic and electrical equipment into one comprehensive scheme—including any product connected to a plug or that contains batteries, as well as all loose and embedded batteries, to bring Australia into line with European standards.

RECOMMENDATION 4.2 Gap analysis of disposal options for all electronic and hazardous waste streams

State and Territory Governments must conduct a detailed gap analysis of disposal options for all electronic and hazardous waste streams, to help inform future schemes and policy decisions.

RECOMMENDATION 4.3 Comprehensive network of safe disposal sites

State and Territory Governments must ensure that a comprehensively accessible network of safe disposal options is provided to all Australians for materials that are hazardous in conventional waste and recycling streams, such as loose and embedded batteries, supported by strong community education campaigns.

RECOMMENDATION 4.4 Incentivise safe battery collection with deposit refund

Product stewardship schemes must strongly incentivise safe collection of batteries at end of use by introducing a deposit refund for safe disposal at appropriate collection points.

5. Tighten scheme governance

RECOMMENDATION 5.1 Supply-chain representation in product stewardship scheme governance

Product stewardship schemes must have supply-chain representation within their governance structures. This should comprise an independent Chair, and a Board that includes representatives and expertise from all stages of a circular supply chain, with equal decision-making powers and formal channels to provide expertise. Recycling industry representation should be proportionate to the operational costs borne for the actual recycling of the waste stream.

RECOMMENDATION 5.2 Recycling sector expert convenor to engage product stewardship schemes with recycling sector

To address Recommendation 5.1, establish and adequately resource a recycling sector expert convenor, under the auspice of the Australian Council of Recycling, to facilitate engagement with subject matter experts and leaders in the recycling sector and provide guidance and board directors to schemes.

RECOMMENDATION 5.3 Clearly defined and measurable objectives, rules and targets

Schemes should have objectives, rules and targets that are clearly defined and measurable, to track progress, evaluate the effectiveness of the scheme, and make necessary adjustments over time. Well-defined metrics—especially regarding recycling and scheme compliance from all parts of the supply chain—will identify areas for improvement and highlight successes.

RECOMMENDATION 5.4 Transparent data about objectives, decision-making processes, recovery rates, recycling outcomes and material movement

All stakeholders should have access to information about the scheme’s objectives, decision-making processes, recovery rates, recycling outcomes and material movement, reported at a state level. This transparency helps prevent conflicts of interest when tendering for services and ensures that the scheme’s actions align with its intended goals.

RECOMMENDATION 5.5 Ensure that the scheme’s objectives are met with accountability measures

Stakeholders within schemes should be incentivised to actively participate in and contribute to the circular economy, particularly recycling. There must be mechanisms for holding participants accountable to commitments and actions in place to ensure that the scheme’s objectives are met.

6. Enforce compliance and consequences

RECOMMENDATION 6.1 Australian Recyclers Accreditation Program (ARAP)

The Australian Government should support compliance through the implementation and adoption of an Australian Recyclers Accreditation Program (ARAP).

RECOMMENDATION 6.2 Enforce waste export regulations

The Australian Government should more effectively and proactively enforce existing waste export regulations, with impactful consequences including fines and imprisonment. The cost of regulation should be placed on producers and distributors, who are responsible for products placed on market.

RECOMMENDATION 6.3 Regulate the export of waste textiles, unprocessed scrap metal and unprocessed e-products

The Australian Government should expand the existing waste export rules to specifically address waste textiles, unprocessed scrap metal and unprocessed e-products.

RECOMMENDATION 6.4 Tax incentives or priority access to markets for best-practice recycling facilities

The Australian Government should create incentives, such as tax incentives or priority access to markets, for recycling facilities that consistently demonstrate high levels of compliance.

RECOMMENDATION 6.5 Product stewardship schemes to be subject to third-party audits and/or inspections

The Australian Government should require regular independent audits to assess compliance with regulations and internal policies, holding stewardship schemes to greater account via more vigilance, auditing and assessment of claims made by schemes regarding performance, industry data and reporting protocols. Third-party audits and/or inspections—underpinned by circular principles—should also be implemented to provide unbiased assessments of compliance and identify areas for improvement.

RECOMMENDATION 6.6 A nationally harmonised resource recovery framework

The Australian Government, together with State and Territory Governments should establish a nationally harmonised resource recovery framework, to prioritise circular economy outcomes, define ‘end of waste’ and support investment confidence in recycling.