

Environmental, social and economic benefits of product stewardship initiatives in Australia

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UTS, ISF and the Product Stewardship Centre of Excellence acknowledge the Gadigal People of the Eora Nation, the Boorooberongal people of the Dharug Nation, the Bidiagal people and the Gamaygal people upon whose ancestral lands our university stands. We would also like to pay respect to the Elders both past and present, acknowledging them as the traditional custodians of knowledge for these lands.

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1. Summary

Product stewardship is effective in delivering environmental, social, and economic benefits.

Opportunity

There is an opportunity to scale up the impact with:

- Greater focus on activities at the design, production and consumption lifecycle stages to avoid waste generation; and
- Better, more consistent reporting on outcomes supporting measurable assessment of performance against product stewardship objectives.

Product Stewardship Activities in Australia - Current state of play



There are 59 collective schemes, 16 of which are currently in the planning stage.



There are 47 individual business initiatives.



There are 18 regulated initiatives.



Top five product classes addressed by initiatives: Packaging (n=28), electrical or electronic products (n=17), clothing textiles (n=9), building materials (n=6) and plastics (n=4).



Business initiatives more evenly address different lifecycle stages: better material choices and design at the production stage; circular business models at the consumption stage; and material recovery at the post-consumption stage.



There are seven voluntary government-accredited initiatives, of which four are voluntary collective schemes, one is a coregulated collective scheme and two are voluntary business initiatives.



The majority (88) of product stewardship initiatives are voluntary industry-led.



Collective schemes focus on the post-consumption stage emphasising resource recovery and take-back services.



Photovoltaics (solar panels) which appear on the Minister's Priority List had no known national initiatives at the time of reporting.

Annual Performance highlight

The main environmental and social benefits reported in 2020 were 19 initiatives collected 336,858 tonnes of waste products for recovery and > 12,000 collection and drop-off points by 33.

2. Background and Objectives

This report is part of a larger project conducted by the UTS Institute for Sustainable Futures, along with the Product Stewardship Centre of Excellence. The objective of this project are to evaluate of the benefits and effectiveness of product stewardship and extended producer responsibility (EPR) activities in Australia.

The primary objectives of this research were to compile and assess the environmental, social and economic benefits of existing and emerging product stewardship initiatives and to provide governments, businesses, and the community with greater access to useful information about product stewardship activities, actors, and benefits.

In this report, we provide a summary of the key findings of our research, as well as the methodology underpinning our work. We share an overview of key findings relating to product stewardship initiatives across the lifecycle as well as by product class.

Information about all initiatives considered in this review, including annual data on their environmental, social and economic outcomes, is available on the recently launched <u>Product Stewardship Gateway</u>. This is a joint initiative between the Department of Climate Change, Energy, the Environment and Water, the UTS Institute for Sustainable Futures, and the Product Stewardship Centre of Excellence.

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3. Methodology

To compile and assess the environmental, social and economic benefits of existing and emerging product stewardship initiatives, the following steps were undertaken:

- 1. Identify existing and emerging product stewardship initiatives;
- 2. Classify stewardship initiatives by organisational, regulatory, funding and geographic status, product class, lifecycle focus and objectives;
- 3. Collate and assess publicly reported data on each initiatives' objectives, environmental, social and economic performance;
- 4. Create a publicly accessible database of the above information; and
- 5. Report on the current state of activity and benefits of product stewardship.

3.1 Identifying existing and emerging product stewardship initiatives

To identify initiatives for the analysis, ISF applied the Product Stewardship Centre of Excellence's definition of product stewardship, which is an approach where those organisations that are placing products onto the market – i.e., producers, manufacturers, brands, importers, and retailers – take primary responsibility to minimise the environmental and human health impacts of the products across the entire product lifecycle.

Based on this definition, 106 initiatives were identified for assessment. See Appendix 1 for the list of initiatives.

It is important to note while all known existing and emerging collective schemes have been included, this is not an exhaustive list of all individual business initiatives and product stewardship activities. Rather, the intention of including individual business initiatives was to investigate the breadth and diversity of product stewardship activity by businesses across product and material classes, and life-cycle stages. Individual business initiatives selected are active in areas beyond their membership of an industry-wide collective scheme and are publicly reporting their actions and outcomes.

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3.2 Classification system for product stewardship initiatives

A classification system was established to characterise the product stewardship initiatives with respect to organisational, regulatory and funding status, product focus, and lifecycle stage and objectives (environmental, social and economic). More detail is presented in Table 1.

The product or material class included categories such as electrical and electronic products, packaging, plastics for agriculture, tyres and clothing textiles. Where possible, the product and material classes were aligned with the Minister's priority list. They also drew on international literature and examples from overseas.

Product or material types are a subset of the product classes. These include commonly known products and materials and those within existing stewardship initiatives. See Appendix 2 for complete list of product and material classes and types.

Table 1: Characteristics of product stewardship initiatives

Organisational, regulatory and funding status	Product and geographic scope	Lifecycle stage and objectives
 Type of initiative (i.e. collective scheme or individual business initiative) – see Box 1) Development status (operational, planning, no longer operational) Product stewardship approach (voluntary, co-regulatory, mandatory – see Box 2) Government accreditation status ACCC authorisation status National Product Stewardship Investment Fund Grant Recipient 	 Product/material class Product/material type Alignment with the Minister's priority lists Geographic range (national, state-specific) 	 Lifecycle stage Objectives (environment, social and economic)

Box 1 – Types of product stewardship initiatives

Collective schemes are where multiple businesses placing similar products on the market work collaboratively to deliver product stewardship solutions. Collective schemes can be led by an industry association, a product stewardship organisation (PSO), or an industry collective to address industry-wide challenges.

Individual business initiatives are led by a single business or brand. They are often managed internally and may involve other supply chain actors. Such initiatives extend beyond a business' participation in collective schemes. Examples include Fairview Ecoloop (an initiative to recycle non-compliant aluminium cladding), Rip Curl's wetsuit takeback and recycling program, or Patagonia's Worn Wear program.

Box 2 – Product stewardship regimes

The Recycling and Waste Reduction Act 2020 (RAWR Act) creates a framework for reducing the impact on human and environmental health of products. The act aims to:

- · reduce the impact of human and environmental health of products
- · realise the community and economic benefits of taking responsibility for products
- develop a circular economy
- contribute to Australia meeting relevant international obligations.

To achieve these objectives, the RAWR Act allows for the regulation of the export of waste. It also provides for three regimes relating to product stewardship: voluntary, co-regulatory, and mandatory arrangements.

1. Voluntary arrangements—The Australian Government can accredit arrangements that further the objects of the RAWR Act. This includes arrangements that effectively manage the negative environmental impacts of products throughout their life. Accreditation provides authorisation to use the Commonwealth's product stewardship logo. Mobile Muster is an example of an accredited arrangement.

2. Co-regulatory arrangements—Co-regulation allows industry to administer its own arrangements. The government provides legislative backing to enable the arrangements to be enforced. The National Television and Computer Recycling Scheme (NTCRS) is an example of a co-regulatory arrangement.

3. Mandatory arrangements— Mandatory arrangements refer to legislation that requires industry to act in a certain way. This includes the Product Stewardship for Oil Program.

These regimes are designed to encourage or require manufacturers, importers, distributors, and other persons to take responsibility for products. This can take the form of either collective schemes or individual business initiatives.

Product stewardship is a whole of lifecycle approach where actions can be taken to address the environmental and human health impacts of products across the three lifecycle stages - design and production, consumption and/or post consumption (Figure 1¹).





3.3 Data collection and analysis

To collate and assess the reported benefits of product stewardship, 34 distinct environmental, social, and economic performance indicators were identified (see Appendix 3). These indicators align with circular economy principles, the waste hierarchy, actions across the product lifecycle, and established sustainability frameworks such as the UNEP Sustainable Development Goals, APCO Annual Reporting Tool, the ASX ESG Reporting Guide for Australian Companies², Circular Economy Metrics³ and KPMG's ESG 2030 Predictions.⁴

³ Prepared for Circular Australia, in November 2022 the UTS Institute for Sustainable Futures published The Circular Economy Metrics: A Review and Circular Economy Metrics: Case Studies for NSW. ⁴ The full report, <u>Looking Ahead ESG 2030 Predictions</u> is available online.

¹ Product Stewardship Centre of Excellence (2022). Annual Report. Available online.

² Australian Council of Superannuation Investors (ACSI) and the Financial Services Council (FSC) jointly created the ESG Reporting Guide for Companies (2015) to highlight the types of information needed by member organisations to understand, price, analyse and manage ESG investment risks. The Guide is designed to complement the reporting requirements of other best practice guides such as the ASX Corporate Governance Principles and Recommendations, and existing best practice guides.

4. Results

4.1 Number and type of product stewardship initiatives

The review examined 106 product stewardship initiatives including 99 initiatives that are currently active, or in different stages of planning, plus a further seven initiatives that are no longer operational (including two co-regulatory arrangements under the National Television and Computer Recycling Scheme). Table 2 provides a summary of the number and type of initiatives.

Just over half are collective schemes (59) with the balance (47) being individual business initiatives. The majority (98) of these initiatives are national in focus and 88 are voluntarily-led by industry. There are 18 regulated initiatives (i.e co-regulated or mandatory) including the 8 state/territory based co-regulated container deposit schemes in operation or development.

Twenty-four (24) initiatives commenced development from early 2021 with support from the Australian Government through the <u>National Product Stewardship Investment Fund</u> (NPSIF). These initiatives aim to design and establish new collective schemes or expand the scope of existing ones. This includes the recent launch of which B-cycle and the expansion of the MobileMuster product stewardship scheme.

There are also seven <u>Commonwealth Government-accredited initiatives</u>⁵. Six are industry-led voluntary initiatives: B-cycle, Big Bag Recovery, Fairview Ecoloop, MobileMuster, Tyre Stewardship Australia and Dulux Project Earth. The seventh accredited initiative is the APCO product stewardship scheme, which is a co-regulatory arrangement established under the <u>National Environment Protection (Used Packaging Materials) Measure</u>.

MobileMuster was the first to be accredited in 2014. Tyre Product Stewardship Scheme, Big Bag Recovery and the Battery Stewardship Scheme (B-cycle) were accredited in 2021; and, Fairview Ecoloop, APCO and Dulux Project Earth were accredited in 2022.

Four organisations have <u>ACCC authorisation</u>⁶: B-cycle, Paintback, Tyre Stewardship Australia (which leads the Tyre Product Stewardship Scheme), and AgStewardship (which leads drumMuster and ChemClear). Authorisation allows these organisations to apply 'industry levies' to fund stewardship activities, and for members to enter into 'enterprise-to-enterprise agreements' which are used to reduce free-riders.

	Total stewardship initiatives	Collective Schemes	Individual Business Initiatives	Voluntary	Regulated
Total number of initiatives	106	59	47	88	18**
Operational	83	37	46	69	14
Planning	16	16	-	14	2
Government accredited	7	5	2	6***	1***
Initiatives supported by NPSIF	24	24	-	24	-

Table 2: Product stewardship activity in Australia

⁶ For more information, please refer to the <u>Product Stewardship Centre of Excellence</u>

⁵ Initiatives are accredited for up to five years. Their claims against their objectives are reported annually. To become accredited, initiatives need to have demonstrated that their objectives and outcomes align with the objects of the RAWR Act. Accredited initiatives can use the government's accreditation logo and accreditation to communicate their sustainability claims to the market.

Practice Note on ACCC Authorisation.

Note: The total count includes initiatives that are no longer operational.

*Seven initiatives are no longer operational; this includes six collective schemes and one individual business initiative. Of the seven that are no longer operational, five were voluntary initiatives and two were regulated schemes.

**This includes eight Commonwealth Government regulated initiatives, i.e. Used oil, Refrigerant Reclaim Australia, NEPM Used Packaging, five individual approved arrangements under the NTCRS and eight state and territory government regulated container deposit initiatives.

***There are seven government-accredited voluntary, industry-led initiatives: B-Cycle, Big Bag Recovery, Fairview Ecoloop, MobileMuster, Tyre Stewardship Australia, Dulux Project Earth. NEPM-APCO, which is a co-regulatory initiative, is also government accredited.

5.2 Product and material scope

The current scope of product stewardship initiatives is spread across 31 product and material classes (see Figure 2⁷ and Table 3). Just over a third of all initiatives examined are addressing issues associated with five product/material classes - packaging (28) and electrical/ electronic (17) clothing textiles (9), furniture (6) and plastics (4). The notable product gap being photovoltaic systems, which has now been listed by the Australian Government for a regulatory scheme. The focus by collective and individual business initiatives is shown in Table 3.



Figure 2: Number of product stewardship initiatives by product or material class

⁷ Product Stewardship Centre of Excellence (2022). Annual Report. Available online.

Product class in focus	Type and number of initiatives	Example initiatives
Packaging	Collective: 15 schemes Business: 11 initiatives	Collective: NEPM-APCO Business: Australia Post product stewardship initiative
Electrical and electronic products	Collective: 8 schemes Businesses: 7 initiatives	Collective: MobileMuster Business: Apple product stewardship initiatives
Plastics (including single-use plastics, plastics for agriculture, plastic oil containers and plastic pipes)	Collective : 7 schemes Business : 1 initiative	Collective: Big Bag Recovery Business: Good Citizens product stewardship initiatives
Clothing textiles	Collective : 1 scheme Business: 7 initiatives	Collective: National Clothing Product Stewardship Scheme Business: Rip Curl wetsuit takeback and recycling program
Building materials	Business: 4 initiatives	Business: Fairview Ecoloop product stewardship
Furniture	Collective: 2 schemes Business: 4 initiatives	Collective: Recycling commercial furniture Business: IKEA product stewardship initiatives

Table 3: Product classes in focus by collective and business initiatives

Figure 3⁸ shows products on the Minister's Priority List⁹ since 2013. Of the 106 initiatives reviewed, 51 align with the current and previous Minister's Priority Lists. Of these, the most common product or material classes are packaging (18), electrical and electronic products (13), clothing textiles (9), and batteries (4).

Certain product classes, such as electrical and electronic products, and photovoltaic systems have been on the list since 2016–17. Other product classes have been added and subsequently removed from the List. For example, paint and batteries were removed from the List after the establishment of schemes while plastic microbeads were removed from the List after they were phased out of rinse-off personal care and cosmetic products.

Three new products classes were added to the Minister's Priority List in 2022–23: (i) mattresses, (ii) plastics in health-care products and (iii) end-of-life tyres.

⁸ Product Stewardship Centre of Excellence (2022). Annual Report. Available online.

⁹ Under the Recycling and Waste Reduction Act 2020 (and previously the Product Stewardship Act 2011) the Minister is required to publish a priority product list that is reviewed every 12 months. The list identifies products and materials considered to be most in need of a product stewardship approach. Publication of the list is intended to provide certainty to the community and industry about what the Australian Government is considering for regulation under the Recycling and Waste Reduction Act 2020. The Minister may decide to implement regulatory measures where adequate industry action has not been taken.

Figure 3: Minister's Priority Lists from 2013 to 2023

2013-14	2014-15	2015-16	2016-17	2017-18	2020-21	2021-22	2022-23
Waste are	chitectural and decora	tive paint					
End-of-life handheld batteries (less than 2kg in weight)'	End-of-life hand (less than 5k	dheld batteries kg in weight)		Batteries (all)		ć. – – –	
Packaging (and s packag	ubsets of packaging s ing and beverage pac	uch as consumer kaging)					
End-of-life ai with small g	r conditioners gas charges						
End-of-life r with small g	efrigerators gas charges						
			Plastic microb	eads and products co	ontaining them		
					Photovoltaic systems		
				Electr	ical and electronic pro	oducts	
					Oil containers		
						Child car seats	
						Clothing) textiles
						Problematic ar single us	id unnecessary e plastics
							Mattresses
							Plastics in health-care products
							End-of-life tyres

*No Minister's Priority List was tabled in Parliament or published in 2018-19 or 2019-20.

As part of the listing process, the Minister is required to include recommended actions and timeframes for action by industry. For example, for mattresses, as there is an existing initiative run by the Australian Bedding Stewardship Council, the Minister requires that there is an increase in industry participation in the existing voluntary scheme and an expansion in scope to include additional products such as bases, pillows and toppers.

Likewise, for end-of-life tyres, where there is also an existing initiative run by Tyre Stewardship Australia, the Minister requires that the existing initiative "strengthen[s] industry-led product stewardship action".

Plastics in health-care products has four actions: to identify data for collection, develop a nation-wide scheme, develop solutions to remove toxins and contaminants from health-care plastics, and assess future scope.

In the case of photovoltaic systems and electrical and electronic systems, which have been on the list since 2016-17, the Australian Government does not consider there to has been sufficient progress. As a result, the Government announced its intention to regulate photovoltaic systems (including solar panels) and household electronics at the Environment Ministers Meeting (21 October 2022).

4.3 Activity by lifecycle stage

Only one-third of initiatives reviewed (i.e., 33 out of 106) are undertaking actions across all three life-cycle stages. In particular, 47 initiatives are addressing production, 48 are targeting consumption, and 91 are targeting post-consumption.

Most collective schemes focus their effort solely on the post-consumption stage i.e. recovering materials and providing take-back services. This includes all the emerging initiatives currently funded by the Australian Government. However, in contrast many individual business initiatives focus on the production and consumption stages, including better material choices, designing better products or packaging to reduce environmental and human health impacts, providing reusable packaging and information to consumers on how improve product performance and extend product life (Figure 4).¹⁰

This highlights the important role that individual business initiatives play in driving innovation in product and packaging design and new business models to avoid waste. There is also the potential for collective schemes to expand their activities across the product life-cycle to the design, production and consumption stages, which can prevent and reduce waste generation in the first place.



Figure 4: Product stewardship activity by life-cycle stage and number of initiatives

Note: The inner circle represents the number of initiatives addressing life-cycle actions at the production, consumption, and post-consumption stages, whereas the outer circle represents the number of initiatives at each life-cycle stage. Since initiatives target more than one life-cycle action and stage, the total counts are higher than the total number of collective schemes and business initiatives.

4.4 Environmental, social and economic benefits of product stewardship

To assess the benefits of product stewardship, the research collated publicly available environmental, social and economic performance data for all 106 initiatives. This data was categorised under 34 performance

¹⁰ Figure from Product Stewardship Centre of Excellence (2022). Annual Report. Available online.

indicators (see Appendix 2). Table 4 below presents the top six annual performance indicators reported by all initiatives.¹¹

Key performance indicator	Туре	Number of initiatives reporting
Number of collection or drop off points	Social	33
Market share of participating entities	Economic	29
Volume of waste diverted	Environmental	28
Volume of waste collected	Environmental	26
Emissions reduction	Environmental	24
Sustainable supply chains	Economic	24

Table 4: Annual performance indicators reported by initiatives

Table 5: Annual performance indicators reported by collective schemes and business initiatives

Colle	ctive Schemes		Individual Business Initiatives		
Key performance indicator	Туре	Number of initiatives reporting	Key performance indicator	Туре	Number of initiatives reporting
Market share of participating entities	Economic	27	Emissions reduction	Environmental	18
Number of collection or drop off points	Social	20	Sustainable supply chains	Social	17
Waste collection volume	Environmental	19	Product, packaging or process design	Environmental	17
Waste diversion volume	Environmental	14	Waste diversion volume	Environmental	14
Community education and marketing	Social	13	Use of recycled content or materials	Environmental	14
Collection rate	Environmental	10	Number of collection or drop off points	Social	13
Recovery rate	Environmental	9	Renewable energy	Environmental	9

Detailed examples of the environmental, social and economic benefits reportedly delivered by product stewardship initiatives as of June 2020 are shown in Table 6. As expected, the suite of indicators reported by an initiative will vary based on its objectives and area of activity. For collective schemes reporting is focussed on activities at the post-consumption stage of the lifecycle as shown in Table 5. Whereas individual business initiatives are reporting on performance at both the design and production and post-consumption stages. There is little reporting by any initiatives at the consumption stage.

¹¹ See Appendix 3 for the entire list of key performance indicators included in the assessment framework.

Table 6: Examples of the environmental, social and economic benefits

Type of benefits	Examples
Environmental	- In 2020, 19 initiatives collected 336,858 tonnes of waste products for recovery.
benefits	- Since 2011, the NTCRS co-regulatory arrangements have collected over 290,000 tonnes of used televisions and computers. ¹²
	 In 2020 > 99% of products in scope of the voluntary phase are reported to be free of microbeads.¹³
	 Australia has met or is exceeding its commitments under the Montreal Protocol to phase out substances that deplete the ozone layer. Refrigerant Reclaim Australia recovers or reuses between 47-67% available for recovery.¹⁴
	- In 2020, 250 million litres of waste oil were collected and re-processed.
	- 24 initiatives are monitoring and reporting carbon mitigation benefits.
Social benefits	- >12,000 collection and drop-off points have been established by 33 initiatives.
	- 24 initiatives are improving upstream supply chain practices.
	- 10 initiatives report on improvements in worker health and safety.
(<u>)</u>	- CDS has directed significant funds to charities and community groups, for example the NSW CDS Return and Earn report a cumulative \$13.2 million in 2020 since inception.
	 MobileMuster, as of June 2021, had given over \$1 million to support local charities and continues to support the Salvation Army by donating \$2 for every kilo of mobiles and accessories collected across their retail network.
Economic benefits	- More than 1000 jobs were projected from 24 new initiatives supported by the NPSIF.
	- Market share, e.g.: NTCRS 97-99% liable party compliance rates, MobileMuster engages 92% of manufacturers and 95% of carriers; Paint Back reports 90% coverage of the architectural and decorative of paint industry; and Tyre Stewardship Australia engages nearly 50% of tyre importers.
	- 8 initiatives are investing in research and innovation.
	- Between 2012-2015, the NTCRS industry funded scheme costed \$133.7 million compared to total Australian Government expenditure of \$3.2 million.

Due to data challenges, calculating overall benefits of product stewardship in Australia for 2019-20 could only be done for a few key performance indicators. In this context, the most consistently reported annual performance data across initiatives was tonnes of waste collected for recycling. The research found that in 2020, 19 product stewardship initiatives reported 336,858 tonnes of waste products collected for recovery. This contributes to *Target 3* of the *National Waste Policy Action Plan: 80% average resource recovery rate from all waste streams.* It is likely there are more initiatives contributing to this target. However, based on this research it appears this data is not being widely reported by all initiatives.

There were also numerous gaps and inconsistencies identified in the data collected, making aggregation for any reporting year a challenge.

The types of inconsistencies in the data included:

¹² The <u>Review of the Product Stewardship Act 2011</u> included a review of the NTCRS.

¹³ For more information please see the 2020 report <u>Assessment of the Presence of Microbeads in Rinse-off Personal</u> <u>Care, Cosmetics and Cleaning Products</u> prepared by EnvisageWorks.

¹⁴ For more information on the potential recovery of ozone depleting substances, please see <u>Refrigerant Reclaim</u> <u>Australia figures for FY2021</u>.

- A lack of quantitative data reporting benefits and an overreliance on qualitative statements (e.g. a brand committing to "improving" or "reducing" their environmental impact without specifying what this actually entails))
- A lack of detail (e.g. volume collected since operation with no breakdown of annual data or volume relative to what is placed on market)
- Inconsistency in definitions (e.g. reporting collection rates as recycling rates that does not account for the effectiveness of recycling processes and losses owing to contamination)
- Variability in units of measurement (i.e. tonnes versus number of items)

Similarly, there was limited data ability to assess effectiveness of product stewardship initiatives (i.e. performance in meeting objectives). For example, tonnes of waste products collected for recovery and materials recovered was 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. Rather, collection rate defined in terms of number (or tonnes) of products collected relative to the number (or tonnes) of products at end-of-life provides a more accurate indicator of effectiveness.

Market share, or proportion of participating entities investing in the initiative, is an important economic performance indicator of how financial responsibilities are being met and shared by industry participants. However, this indicator was commonly reported in terms of the number of companies participating in the initiative, rather than t more useful measure that is percentage of market share is contributing to the initiative (i.e. share of products placed on the market).

There is an opportunity for businesses and stewardship organisations to improve data collection and reporting. This would significantly help both businesses and the public better understand the benefits of product stewardship.



Appendices

Appendix 1: List of initiatives by product class

Product type	Initiative name	Organisation
Absorbent hygiene products	Project Divert	Asaleo Personal Care
Agricultural and veterinary chemicals	ChemClear	Agsafe
Automotive (vehicle and bikes	End-of-life vehicle waste management solutions	Federal Chamber of Automotive Industries (FCAI)
	EXITcycle	Lighting Council of Australia
	B-Cycle	Battery Stewardship Council (BSC)
Batteries	Battery World product stewardship initiative	Battery World
	Aldi Battery Recycling	Aldi
Bedding	Recycle my Mattress, Bedding Stewardship Scheme	Australian Bedding Stewardship Council (ABSC)
	Brickworks Carbon Offset Program	Brickworks
Puilding metaviala	Fairview Ecoloop product stewardship	Fairview EcoLoop
building materials	SVC product stewardship initiatives	SVC
	Boral product stewardship initiatives	Boral
Chemicals	Responsible Care	Chemistry Australia
Child car seats	SeatCare	Equillibrium OMG
	Circular Threads	Australasian Circular Textile Association (ACTA)
	National Clothing Product Stewardship Scheme	Australian Fashion Council (AFC)
	Conscious Koala product stewardship initiative	Conscious Koala
	Kathmandu product stewardship initiatives	Kathmandu
Clothing textiles	Kitx product stewardship initiative	Kitxchange
	Nudie Jeans product stewardship initiative	Nudie Jeans
	Patagonia Worn Wear program	Patagonia Australia
	Rip Curl wetsuit takeback and recycling program	Rip Curl

Product type	Initiative name	Organisation
	The ICONIC product stewardship initiatives	The ICONIC
	NTCRS - Electronic Product Stewardship Australasia	SIMS Recycling Solutions
	NTCRS - MRI PSO DropZone	MRI PSO - DropZone
	Cartridges for Planet Ark	Planet Ark Environmental Foundation
	Fluorocycle	Lighting Council of Australia
	MobileMuster	Australian Mobile Telecommunications Association
Electrical and electronic products	NTCRS - Ecycle Solutions	QLS Group
products	NTCRS - Ecoactiv (Activ Group Solutions)	Activ Group Solutions Pty Ltd (Ecoactiv)
	NTCRS - Ecocycle Product Stewardship Initiative	Ecocycle Pty Ltd
	NTCRS - Sustainable Product Stewards	Sustainable Product Stewards Pty Ltd
	NTCRS - TechCollect	Australia New Zealand Recycling Platform (ANZRP)
	Apple product stewardship initiatives	Apple Australia
	Canon Oceania product stewardship initiatives	Canon Australia
	Comsol packaging stewardship initiative	Comsol
	Fronius product stewardship initiative	Fronius
	FujiFilm product stewardship initiative	FUJIFILM Business Innovation Australia
	HP product stewardship initiatives	HP
	Telstra product stewardship initiatives	Telstra
	ResiLoop - Stewardship for resilient flooring	Australian Resilient Flooring Association (ARFA)
Flooring	ShawContract product stewardship initiatives	Shaw Contract
	Tarkett product stewardship initiatives	Tarkett
Food	Australian Food Pact	Stop Food Waste Australia

Product type	Initiative name	Organisation
	YUMEfoods product stewardship initiatives	YUMEfoods
	TreadLightly (previously Save Our Soles)	Australian Sporting Goods Association (ASGA)
Footwear	Bata PVC gumboot recycling program	Bata
	Havaianas Free Recycling Program	Havaianas
	Furniture 360	Australian Furniture Association (AFA)
	Recycling commercial furniture	Edge Environment
	IKEA product stewardship initiatives	IKEA Australia
Furniture	Schiavello product stewardship initiative	Schiavello
	UCI product stewardship initiatives	UCI
	Woven Image product stewardship initiative	Woven Image
Gas meters and energy management products	EDMI product stewardship initiatives	EDMI Meters
Hair and beauty products	Sustainable Salons Recycling Service	Sustainable Salons Pty Ltd
Newspapers and magazines	ThinkNewsBrands	ThinkNewsBrands
Office supplies	BIC Writing Instrument Free Recycling Program	BIC
Once supplies	Officeworks product stewardship initiatives	Officeworks
Oil	Product Stewardship for Oil Program	Department of Climate Change, Energy, Environment
Oil containers	Recycling used oil containers	Australian Packaging Covenant Organisation (APCO)
	Polypropylene Plant Packaging Recycling Program	Australian Packaging Covenant Organisation (APCO)
	REDcycle (no longer active)	RED Group
	Container Deposit Scheme - ACT	Exchange for Change

Product type	Initiative name	Organisation
	Compost Connect (previously Compost Network)	BioPak
	drumMUSTER	Agsafe
	NEPM - Australian Packaging Covenant	Australian Packaging Covenant Organisation (APCO)
	Simply Cups	Closed Loop Environmental Solutions
	Return & Earn - NSW	Exchange for Change
	Cash for Containers - NT	Multiple Coordinators
	Containers for Change - QLD	Containers for Change
	Container Deposit Scheme - SA	Multiple Coordinators
	Containers for Change - WA	Western Australia Return Recycle Renew
Plastics	Cosmetics Product Stewardship Program	Close the Loop
	National Plastics Recycling Scheme (NPRS)	Australian Food and Grocery Council (AFGC)
	PODcycle	Planet Ark Environmental Foundation
	Container Refund Scheme - TAS	CDS Tasmania - name TBC
	Container Deposit Scheme - VIC	CDS Victoria - name TBC
	Australia Post product stewardship initiative	Australia Post
	Back to MAC	MAC Cosmetics
	Chemists' Own Blister Pack Free Recycling Program	Chemists' Own
	David Jones BeautyCycle	David Jones
	Green Caffeen	Green Caffeen
	Maybelline Greener Together Free Recycling Program	Maybelline
	MECCA Beauty Product Free Recycling Program	MECCA
	NESCAFÉ® product stewardship initiative	Nestle
	PP5 Recycling	Garden City Plastics

Product type	Initiative name	Organisation
	Tip Top product stewardship initiative	Тір Тор
	Schulz Organic Dairy Milk in Glass	Schulz Organic Dairy
Paint and paint	Paintback	Paintback
containers	Dulux product stewardship initiatives	Dulux Group
Plastic pipes	PIPA Plastic Pipes and Fittings Stewardship	Plastics Industry Pipe Association Ltd
Plastics	Plastics Stewardship Australia	Chemistry Australia
	PVC Recycling in Hospitals Program	Vinyl Council Australia
	PVC Stewardship Program	Vinyl Council Australia
	Good Citizens product stewardship initiatives	Good Citizens
	Big Bag Recovery	Big Waste Recovery
Plastics for agriculture	A circular economy for silage wrap	Dairy Australia
	Non-packaging agricultural stewardship scheme	RM Consulting Group
Refrigeration	Refrigerant Reclaim Australia (RRA)	Refrigerant Reclaim Australia (RRA)
Sports equipment	Game On Recycling	Australia New Zealand Recycling Platform (ANZRP)
Steel	ResponsibleSteel	ResponsibleSteel
Textiles	TexBack: PVC polyester textiles stewardship scheme	Vinyl Council Australia
	Sustainable Living Fabrics	Sustainable Living Fabrics
Toys	Big W Toys for Joy	Big W
Tyres	Tyre Product Stewardship Scheme	Tyre Stewardship Australia

Appendix 2: Product and material classes and types

PRODUCT OR MATERIAL CLASS	PRODUCT OR MATERIAL TYPES	
Absorbent hygiene products	Absorbent hygiene products	
Agricultural and veterinary chemicals	Agricultural and veterinary chemicals, agricultural chemicals, cattle chemicals	
Agriculture	Crops	
Automotive (vehicles & bikes)	Electric bikes, Vehicles	
Batteries	Batteries, button batteries, easily removable batteries, easy removable batterie, emergency and exit lighting batteries, rechargeable batteries	
Bedding	Bedding, mattresses	
Building materials	Bricks, cement, non-compliant cladding	
Chemicals	Chemicals	
Child car seats	Child car safety seats	
Clothing textiles	Adventure gear, bathing suits, clothing textiles, fashion, footwear, outdoor gear, uniforms, wetsuits, workwear	
Electrical and electronic products	Accessories, batteries in electronic devices, battery charging technology, cameras, carbon emissions, computer parts, computers, consumer electronics, dental and medical waste, desktops, digital set-top boxes, drum units, fluorescent tubes, fuser kits, industrial equipment, inverters, lamps and other types of lighting waste, landline phones, laptops, mercury containing lamps, mining concentrates and residues, mobile phones, modems, multifunction devices, packaging, photovoltaics, plastic packaging, printer cartridges, printers, recycled metals, routers, scanners, smart home devices, smart home technology, smart-watches, tablets, telecommunications, televisions, toner bottles, wearables, wearables and peripherals, welding technology	
Fashion Accessories	Eyewear	
Flooring	Broadloom, carpet, carpet tiles, flooring, luxury vinyl tiles, vinyl flooring, vinyl rolls	
Food	Coffee grounds, food	
Footwear	Active lifestyle footwear, gumboots, sports footwear, thongs	
Furniture	Acoustic panels, furniture, household goods, office furniture, residential furniture, workplace furniture	
Gas meters and energy management products	Energy management products, gas meters	
Hair and beauty products	Hair, hair products, salon cleaning products, salon metals, sharps	
Ink	Waste ink	
Medical products and services	Medical supplies	
Newspapers and magazines	Newspapers	
Office supplies	Office supplies, writing instruments	
Oil	Lubricating oil	
Oil containers	Metal oil containers, rigid plastic oil containers	
Packaging	Alcoholic cider bottles, aluminium containers, aluminium packaging, beers, ales and stouts, beverage packaging, bio-plastic coffee pods, blister packs, bottles, bread tags, cans, carbonated and non-carbonated soft drink containers, cardboard, cartons, coffee cups, coffee pods, compostable mailers, consumer packaging, cosmetics packaging, empty containers from agricultural and veterinary chemicals, flavoured alcoholic beverage	

PRODUCT OR MATERIAL CLASS	PRODUCT OR MATERIAL TYPES	
	containers, flavoured milk containers, food waste and compostable packaging, fruit juice containers, glass containers, glass milk bottles, haircare packaging, juice boxes, liquid paperboard containers, makeup packaging, packaging for hydraulics and fluidics, paktechs paper packaging, plant pots, plastic containers, plastic in packaging, polypropylene (PP) plant packaging, poppers, recycled packaging rPET, skincare packaging, soft plastics, steel containers, used cosmetics containers, water bottles	
Paint and paint containers	Architectural paint, decorative paint, paint and paint containers	
Plastic pipes	Plastic pipes – PE, plastic pipes – PP, plastic - PVC	
Plastics	Plastic bags, plastic bottles, plastic oxygen masks, plastic oxygen tubing, plastic, PVC, soft plastic food wrapper, sunglasses	
Plastics for agriculture	Agricultural plastics, dairy silage wraps and covers, farm plastics, plastic bag for agriculture	
Refrigeration	Cabinets, coolers, freezers, fridges	
Sports equipment	Basketballs, snow boots, snow skis, tennis balls, tennis racquets	
Steel	Steel	
Textiles	Advertising banners, grain covers, marine fabrics, polyester, polyester composite textiles, PVC in textiles, roofing and ground sheets, swimming pool liners, tarpaulins, tents and marquees, truck tarps, upholstery fabrics, wool, wool-nylon blend	
Toys	Die cast toys, electronic toys, plastic toys, playsets, plush toys, vehicle toys	
Tyres	Agriculture tyres, aviation tyres, bus tyres, conveyor belts, mining tyres, off the road tyres (including agriculture, mining, construction and aviation), passenger tyres, rubber tracks, truck tyres	

Appendix 3: Environmental, social and economic performance indicators

MATERIALS	Use of recycled content or materials	This indicator captures the use of recycled content in products and packaging, with the aim of reducing virgin material use, waste to landfill and to support expansion of markets for secondary materials
	Use of renewable materials	This indicator captures the use of renewable materials, e.g. biomass-based, in products and packaging, to reduce dependence on virgin materials
	Eliminating the use of hazardous materials	This indicator captures actions related to the elimination of hazardous materials in product and packaging design, and the promotion of sound management of chemicals and hazardous wastes throughout the product lifecycle
EFFICIENCY	Dematerialisation and improved efficiency	This indicator relates to improvements in the use of materials for production or use, including cleaner production and industrial symbiosis activities
DESIGN & PACKAGING	Product, packaging and/or process design change	This indicator relates to product, packaging and/or process design changes for circularity, waste avoidance or reduction, resource recovery
	Product longevity and durability	This indicator relates to product or packaging design changes to increase the average lifespan of products

		and components, to promote repair, reuse, component replacement
	Sustainability information and labelling	This indicator relates to the provision of information and labelling; e.g. about the use of recycled materials, energy savings, product impacts across the supply chain, guidance on proper use or disposal
	Energy use savings	This indicator refers to the energy savings as a result of efficiency improvements, changes in production, processes and product use, including efficient transport
	Renewable energy	This indicator records the use of renewable energy in production, processes, facilities, retail locations, transport
ENERGY, WATER, EMISSIONS	Water use savings	This indicator refers to the water savings as a result of efficiency improvements, changes in production, processes and product use
	Water recycling	This indicator refers to the use of recycled water or the adoption of technologies to recycle water before disposal
	Emissions reduction	This indicator relates to actions for carbon avoidance, sequestration, reduction or diversion of CO2 equivalent emissions, GHG emissions, particulate matter and others
WASTE & RECYCLING	Waste collection volume	This indicator relates to the quantity (volume) of waste products, packaging or materials collected for recovery. Note: for Container Deposit Schemes, collection volume has been recorded as the volume redeemed or volume returned
	Collection rate	This indicator is defined as products, packaging or materials collected for recovery as a percentage of total products, packaging or materials entering the waste stream
	Waste diversion volume	This indicator relates to the quantity (volume) of waste diverted from landfill as a result of activities such as recovery, reprocessing, recycling, composting
	Recovery rate	This indicator includes material, nutrient or energy recovery as a percentage of products, packaging or materials entering the waste stream
ORGANISATIONAL POLICY, PROCESS & COMPLIANCE	Sustainable procurement	This indicator relates to sustainable procurement policies and actions of schemes or individual business initiatives, including contractual terms, supplier participation and providing sustainable products to clients and third parties
	Environmental risk management	This indicator relates to policies and actions designed to reduce exposure to climate change risk and extreme weather events, divestment from fossil fuels, reducing CO2 footprint across supply chains
SOCIAL BENEFITS		
ORGANISATIONAL POLICY & PROCESSES	Worker health and safety	This indicator records the organisational practices related to occupational and worker health and safety, such as OWH&S policies, training, partner and sub-contractor processes

	Governance, audit, monitoring and compliance	This indicator refers to codes of conduct and practices related to organisational governance, auditing, monitoring and compliance
	Sustainable supply chains	This indicator refers to supply chain practices such as standards to ensure health and safety of those working in supply chains, certifications, national and international regulations and practices for sustainable supply chains
POLICY ACTIONS	Actions to increase engagement with government for policy impact	This indicator considers specific actions by industry to engage with government for policy impact such as updates to legal and regulatory frameworks, standards, codes of practice and advocacy
PHYSICAL COVERAGE	Number of collection, drop- off points	This indicator relates to the number of collection and drop-off points for products and/or packaging
COMMUNITY OUTREACH	Engagement with Indigenous communities	This indicator considers actions to increase engagement with Indigenous communities through collaboration and awareness building
	Increasing accessibility in remote and regional areas	This indicator reports on the activities for increasing accessibility to product stewardship initiatives in remote and regional areas. Accessibility can be measured in terms of % of population covered, distance to collection points, number of collection points per population, or events conducted in regional and remote areas. Accessibility targets are set forth in the National Waste Policy Action Plan (2019) and through co-regulatory initiatives such as APCO and the NTCRS
	Local recycling	This indicator refers to activities and technologies to promote local processing or recycling economies to manage waste locally and to support local employment in recycling, e.g. through social enterprises
	Community education and marketing	This indicator reports on awareness generation through community engagement, education, marketing and market research
	Equity and diversity in employment	This indicator relates to policies and actions for increasing indigenous employment and training, gender diversity, local job creation, working with or becoming a social enterprise
	ECONOMIC E	BENEFITS
INNOVATION	Research and development	This indicator measures Research and Development (R&D) activity through investment in R&D, number of projects under new R&D, share of spending on R&D, funding of research programs and students
JOB CREATION	Direct employment	This indicator reports on the number of full-time equivalent (FTE jobs created directly owing to the activities of the initiative
	Indirect employment	This indicator reports on the number of full-time equivalent (FTE) jobs created through the activities of partners, sub-contractors and supply chain actors associated with the initiative
INDUSTRY ENGAGEMENT	Market share, participation from producers, retailers	This indicator is a measure of the responsible entities actively engaged through the initiative relative to the

		total number of market operators, it can be expressed as percentage share of the market covered by participating entities
NEW MARKET CREATION	Creating new end-markets	This indicator relates to activities that contribute to the creation of new end-markets, e.g. by building demand for recycled products and materials and the expansion of markets for secondary materials





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