



# Global scan of packaging stewardship schemes Lessons for Australia



**Product  
Stewardship  
Centre of  
Excellence**

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## SUMMARY

This White Paper presents insights and learnings from a high-level review of packaging stewardship scheme characteristics in Europe, North America, Australia, and New Zealand.

Product stewardship regulations for packaging were originally introduced in Europe in the late 1990s to achieve several objectives, including to:

- reduce packaging waste and litter
- shift the costs to manage packaging waste and litter at end-of-life from the public sector to producers
- conserve virgin resources by increasing material recovery
- provide a financial incentive to producers to design more sustainable (i.e., reusable and recyclable) packaging.

Packaging stewardship regulations across the globe have generally been effective in shifting costs onto producers, but the impact on reducing packaging waste and litter and increasing material recovery has been mixed. While there is some evidence that industry-wide fees have encouraged reductions in packaging weight, there is limited evidence of other sustainability design changes (Brown, Laubinger, & Börkey, 2023). The uneven performance of EU Member States and other limitations have prompted the European Commission to replace the Packaging and Packaging Waste Directive (PPWD) with a more prescriptive regulation. This is expected to include harmonised requirements for product bans, product stewardship regulations and data reporting.

The global scan also highlighted several important trends in the design of packaging stewardship schemes and regulations informed by decades of experience in the design and implementation of producer responsibility, particularly in Europe. These include:

- increasing government regulation to drive industry participation and performance, as evidenced by the proposed EU Packaging Regulation and the transition away from voluntary industry agreements in the Netherlands and Norway

- the introduction of eco-modulated levies by many schemes, for example in France, to incentivise packaging design changes such as recyclability. This will be a requirement under the EU Packaging Regulation.

A limitation of many schemes has been their focus on managing the end-of-life of packaging rather than the entire packaging lifecycle. This is starting to change, with more schemes addressing the environmental and human health impacts of packaging over its entire lifecycle.

The findings from the global scan align with the five characteristics of an effective product stewardship scheme, published by the Product Stewardship Centre of Excellence in 2023:

1. High levels of industry or business investment and participation are essential – typically, regulation is necessary for industry-wide schemes.
2. Clearly defined objectives – measurable environmental, social, and economic performance indicators demonstrate benefits and allow for continual assessment of the effectiveness.
3. Good governance – this includes defined roles and responsibilities and ensures transparency through public reporting.
4. Use of financial incentives – to drive behaviour change of producers, consumers, repairers, collectors, sorters, and recyclers.
5. Effective marketing – this leads to high awareness and increased user participation.

Further, we have identified the following six opportunities to improve the effectiveness of national packaging regulations in Australia:

- National regulation to replace the current reliance on state and territory government enforcement of the National Environment Protection (Used Packaging) Measure or NEPM.
- Clear definitions of the problem, objectives, outcomes, producer obligations, and roles and responsibilities.
- Targets for reduction of packaging placed on the market, and

collection and recycling rates.

- Mandatory design standards to replace the voluntary Australian Packaging Covenant Organisation (APCO) Sustainable Packaging Guidelines.
- Producer fees to fund the net costs of collection and recycling in addition to other implementation costs, in particular effective marketing and promotion to consumers and consumer incentives to increase awareness and participation.
- Eco-modulated fees to incentivise design for recyclability and recycled content.

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# INTRODUCTION

## *Purpose*

More stringent product stewardship regulations are being introduced in many jurisdictions around the world, with packaging being one of the most common targets. In Australia, mandatory targets and stronger enforcement mechanisms for packaging stewardship are expected to be introduced from 2025 (*DCCEEW, 2022*).

This White Paper aims to:

- share information on the characteristics of existing and emerging packaging stewardship schemes and regulations from Europe, North America, Australia and New Zealand
- provide a high-level analysis of how these characteristics have influenced the effectiveness of the schemes and regulations in delivering their intended outcomes
- identify the essential characteristics that should be adopted when designing Australian packaging schemes.

## *Definitions and scope*

Product stewardship is defined as ‘a concept and set of approaches based on the idea that those involved in designing, manufacturing, and selling products should accept responsibility for ensuring they do not have adverse impacts on the health of humans and environments. This includes impacts across the lifecycle of the products, from the extraction of materials, the way products are used, and how they are managed at end-of-life (Florin, Talwar, & Read, 2023)’.

Product stewardship is a more holistic concept than Extended Producer Responsibility (EPR), which generally refers to government regulations that make producers physically or financially responsible for the collection and recycling of products at end-of-life. In contrast, product stewardship requires producers to be responsible for and take action to prevent products from creating harm to the environment and human health over the entire product lifecycle, including end-of-life.


In this paper, we have not reviewed any individual business product stewardship initiatives.

## *Acknowledgements*

The paper builds on previous research by the authors for the Plastic Packaging Product Stewardship (PPPS) co-design project led by The Packaging Forum and the NZ Food & Grocery Council (Kuulkani, Lewis, & Read, 2023). The authors acknowledge the valuable input provided by Lyn Mayes and Rob Langford to this earlier project.

It also builds on recent research by the UTS Institute for Sustainable Futures and the Product Stewardship Centre of Excellence (the Centre), including:

- [Evaluating product stewardship benefits and effectiveness – Summary Report](#), May 2023 (Florin, Talwar, & Read, 2023)
- [Environmental, social, and economic benefits of product stewardship initiatives in Australia](#), May 2023 (Florin, Talwar, & Read, 2023)
- [Product stewardship benefits assessment 2022: Business report](#), May 2023 (Clark, Collin, & Schiavone, 2023)
- [Product stewardship benefits assessment 2022: General population report](#), May 2023 (Clark, Daoud, Collin, & Schiavone, 2023)

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- [Product stewardship benefits assessment 2022: Local Government report](#), May 2023 (Clark, Daoud, Collin, & Schiavone, 2023)
  - [Effectiveness and Benefits of Product Stewardship: Themes from 60 qualitative interviews](#). May (Dentsu Creative, 2023)
  - The [Product Stewardship Gateway](#), which includes information about each initiative and publicly reported annual environmental, social, and economic performance data.



## GLOBAL SCAN

This paper has reviewed 23 existing and emerging packaging stewardship schemes and regulations in Europe, North America, Australia, and New Zealand. Some of these schemes and regulations have been in place since the mid to late 1990s, while others were introduced more recently or are in the final stages of establishment.

The purpose of the global scan was to identify the characteristics and trends in scheme design and operations that best deliver positive environmental and social outcomes.

### Schemes and regulations reviewed

The global scan investigated 14 existing packaging stewardship schemes (Table 1) and nine emerging regulations (Table 2). A detailed description of the characteristics for each of these schemes and regulations is provided in Appendix 1. Six existing and emerging industry-led voluntary packaging stewardship schemes in Australia were also reviewed (3) and further details on these schemes are available on the [Product Stewardship Gateway](#).

Table 1: Packaging stewardship schemes included in the global scan

| REGION OR COUNTRY | COUNTRY OR STATE             | SCHEME/PRODUCT STEWARDSHIP ORGANISATION           | STATUS   |
|-------------------|------------------------------|---|--|
| <b>Europe</b>     | Belgium                      | Fost Plus   | Operational (est. 1994)  |
|                   | Ireland                      | Repak   | Operational (est. 1997)  |
|                   | France                       | CITEO   | Operational (merged Eco-Emballages, est.1992 and Ecofolio, est. 2007)  |
|                   | Netherlands                  | The Dutch Packaging Waste Fund (StAV) and Nedvang | Operational. Voluntary Covenants 1991 – 2005 were replaced by EPR regulations in 2006. These were strengthened when the waste contribution became mandatory in 2022. |
|                   | Norway                       | Green Dot Norway                                  | Operational (est. 1997). In 2017 voluntary industry agreements were replaced with regulations.   |
| <b>Canada</b>     | British Columbia             | Recycle BC  | Operational (est. 2014)  |
| <b>Australia</b>  | Australia                    | Australian Packaging Covenant                     | Operational (est. 1999)  |
|                   | Australian Capital Territory | CDS – Exchange for Change ACT                     | Operational (est. 2018)  |
|                   | New South Wales              | CDS – Exchange for Change                         | Operational (est. 2017)  |
|                   | Northern Territory           | CDS – multiple PROs                               | Operational (est. 2012)  |
|                   | Queensland                   | CDS – Container Exchange                          | Operational (est. 2018)  |
|                   | South Australia              | CDS – multiple PROs                               | Operational (est. 1977)  |
|                   | Victoria                     | CDS – VICReturn                                   | Operational (est. 2023)  |
|                   | Western Australia            | CDS – Containers for Change                       | Operational (est. 2020)  |

Table 2: Packaging stewardship regulations included in the global scan

| REGION OR COUNTRY    | COUNTRY OR STATE | SCHEME   | STATUS   |
|----------------------|------------------|--|--|
| <b>Europe</b>        | European Union   | Proposed Regulation on Packaging and Packaging Waste   | Expected to be introduced in 2024 to replace the current Packaging Directive (est. 1994)   |
|                      | United Kingdom   | Proposed Producer Responsibility Obligations (Packaging and Packaging Waste) Regulations 2024              | New regulations from 2024 will replace existing scheme (est. 1997). Multiple PSOs (Valpak etc.) expected to be replaced with one scheme administrator. |
| <b>Canada</b>        | Alberta          | EPR Regulation   | Regulation introduced 2022. Scheme to be operational by 2025.  |
| <b>United States</b> | California       | Plastic Pollution Prevention and Packaging Producer Responsibility Act                                     | Regulation passed 2022. Producers required to join a PRO by 2024.  |
|                      | Colorado         | Producer Responsibility Program for Recycling/Circular Action Alliance (PRO)                               | Regulation passed 2022. PRO to undertake planning in 2024.   |
|                      | Oregon           | Plastic Pollution and Recycling and Modernization Act  | Regulation passed 2021. Producers required to join a PRO by 2025.  |
| <b>Australia</b>     | Australia        | National Environment Protection Measure (Used Packaging)/Australian Packaging Covenant Organisation (APCO) | Updated regulations in development in 2024 to replaced existing scheme (est. 1999).  |
|                      | Tasmania         | Container deposit scheme   | Scheme expected to be operational in 2024.   |
| <b>New Zealand</b>   | National         | Plastic Packaging Product Stewardship (PPPS) Scheme  | Scheme in development 2024.  |

Table 3: Voluntary packaging stewardship schemes in Australia<sup>1</sup>

| SCHEME                               | SCHEME ADMINISTRATOR/PSO            | PACKAGING SCOPE          | STATUS                  |
|--------------------------------------|-------------------------------------|--------------------------|-------------------------|
| Paintback                            | Paintback                           | Paint packaging          | Operational (est. 2016) |
| drumMUSTER                           | Agsafe                              | Farm chemical containers | Operational (est. 1999) |
| Podcycle                             | Planet Ark Environmental Foundation | Coffee pods              | In development 2024     |
| Cosmetics Product Stewardship Scheme | ACCORD / Close the Loop             | Cosmetics packaging      | In development 2024     |
| National Plastics Recycling Scheme   | Australian Food and Grocery Council | Household soft plastics  | In development 2024     |
| Big Bag Recovery                     | Industry Waste Recovery             | Bulk bags                | Operational (est.2015)  |

## Analysis of scheme and regulation characteristics

The Centre's eight elements of good scheme design and five characteristics that influence scheme effectiveness (Table 4) have been used as a framework to compare and discuss the packaging stewardship schemes and regulations examined in this white paper.

<sup>1</sup>Excludes individual company schemes.

Table 4: Characteristics for effective scheme design

| EIGHT ELEMENTS TO SCHEME DESIGN      |   | FIVE ESSENTIAL CHARACTERISTICS FOR SCHEME EFFECTIVENESS   |
|--------------------------------------|---|---|
| <b>Problem</b>                       | What are the environmental and human health issues that are being solved?   | <p><b>Clearly defined objectives</b><br/> <i>Measurable environmental, social, and economic performance indicators demonstrate benefits and allow for continual assessment of effectiveness.</i></p>  |
| <b>Scope</b>                         | What product class, type, geographic coverage?  |   |
| <b>Solutions</b>                     | What actions need to take place to solve the problem and at what stage of the product lifecycle should they occur? Includes testing possible solutions through pilots.  |   |
| <b>Objectives/ Targets/ Outcomes</b> | What are the environmental and human health outcomes that will be achieved and over what timeframe?   |   |
| <b>Financing</b>                     | How will the scheme be funded, how much will it cost, who will pay, how will funds be collected and spent, and what financial incentives and penalties will be used to facilitate the necessary changes to deliver scheme outcomes?                                 | <p><b>High levels of industry or business investment and participation ensuring fair sharing of costs by industry.</b><br/> <i>For collective schemes, government regulation is necessary.</i></p> <p><b>Use of financial incentives/penalties</b><br/> <i>To drive behaviour change of businesses, consumers, repairers, collectors, sorters, and recyclers.</i></p> |
| <b>Governance</b>                    | How will the scheme be managed (i.e. legal framework etc.), who is responsible (i.e. producers), what are roles and contributions of organisations/agencies across the entire product lifecycle, how will information be reported, service provider contracts etc.? | <p><b>Good governance</b><br/> <i>Includes defined roles and responsibilities and ensures transparency through public reporting.</i></p>  |
| <b>Risks</b>                         | What are the financial, environmental, social and reputational risks to the scheme e.g. companies not contributing, unsafe and fraudulent operational practices etc.?   |   |
| <b>Operations</b>                    | What operational principles and procedures, marketing communications and compliance, environmental health and safety procedures etc. need to be developed?  | <p><b>Effective marketing</b><br/> <i>Leads to high awareness and increased user (i.e. general public, businesses) participation.</i></p>   |

## Problem definition

European packaging regulations introduced in the 1990s, guided by the EU Packaging Directive, aimed to address growing quantities of packaging waste, the consumption of virgin, non-renewable materials, the growing costs to government of waste management, and the environmental and health impacts of hazardous components<sup>2</sup>. The National Environment Protection (Used Packaging Materials) Measure, or NEPM introduced in Australia in 1998 and revised in 2011, was created to reduce environmental degradation arising from the disposal of these materials and conserve virgin material by encouraging waste avoidance and the reuse and recycling of used packaging.

The environmental impacts of waste and litter are the primary objectives of most packaging stewardship regulations, but there is increasing recognition that packaging stewardship can also address other environmental issues and challenges, in reducing carbon emissions and restoring and regenerating natural capital. In some jurisdictions, product stewardship is now seen as critical in providing a pathway for government and businesses to transition to a circular economy. The best example of this is the proposed EU packaging regulation, which is implementing recommendations in the Circular Economy Action Plan (CEAP) for stronger regulation of packaging. The background report on the proposed regulation notes that 'low levels of reuse and poor recycling stand in the way of achieving a low-carbon circular economy' (European Commission, 2022, p. 3).

## Scope (product class and types)

The scope of packaging covered by the reviewed schemes and regulations varies widely (Table 5). Some regulations include all packaging types, i.e. household<sup>3</sup> and commercial & industrial (C&I). Other scheme scopes are limited to household or consumer-facing packaging, or in the case of California and Oregon, only cover household plastics.

Table 5: Packaging types covered by packaging stewardship schemes and regulations.

| SCOPE                                       | SCHEME/REGULATION EXAMPLES   |
|---|--|
| <b>All packaging</b>                        | EU Packaging Directive and proposed Packaging Regulation <sup>4</sup><br>The Netherlands – StAV and Nordvang<br>United Kingdom – Valpak and other Product Stewardship Organisations (PSOs)<br>Belgium – Fost Plus for household, VAL-I-PAC for industrial packaging  |
| <b>Household packaging and paper</b>        | France – CITEO<br>Alberta<br>British Columbia – Recycle BC   |
| <b>Household packaging</b>                  | Norway – Green Dot Norway. Exemptions for beverage packaging, which is subject to a tax<br>Ontario – also includes some C&I e.g., pallet wrap when added by producers <sup>5</sup><br>Colorado – excludes beverage containers covered by a deposit return system   |
| <b>Household packaging and onsite waste</b> | Ireland – Repak. Scope includes 'backdoor' waste generated onsite by liable parties  |
| <b>Household plastic packaging</b>          | California – packaging collected through residential collection services. Excludes packaging already in other schemes (e.g. beverage containers, agricultural) and some excluded sectors (e.g. medical).<br>Oregon – 'consumer-facing'. Excludes packaging covered by the Bottle Bill.<br>New Zealand – packaging generated in the normal activities of a household. |

<sup>2</sup> The EU Essential Requirements, for example, impose strict limits on heavy metals in inks, pigments etc.

<sup>3</sup> Household packaging is generally defined to include 'household-like' packaging consumed away from home.

<sup>4</sup> Annex 1 of the proposed EU Packaging Regulation provides examples of packaging and non-packaging (European Commission, 2022)

<sup>5</sup> Ontario was not included in the Appendix of this report but added here as a different example of scope.

### Scope (lifecycle stages)

Most product stewardship schemes and regulations for packaging have traditionally focused on addressing environmental problems at the end-of-life, i.e. growing levels of waste generation, low levels of resource recovery and litter management, rather than the entire packaging lifecycle.

The only regulations that address environmental issues at the design, production and use lifecycle stages of packaging are the Essential Requirements in the EU Packaging Directive (and their more detailed translation into CEN (*Comité Européen de Normalisation*<sup>6</sup>) and Australia's Sustainable Packaging Guidelines (SPGs). Both the CEN Standards and the SPGs promote material efficiency, elimination of hazardous components and design for reuse or recycling.

More recent schemes mention the entire packaging lifecycle more explicitly; for example, the Californian scheme is targeting 'Impacts on public health and the environment at every stage of the product's lifecycle'.

### Objectives and targets

Packaging stewardship schemes were introduced to reduce waste, increase recycling and, in most cases, to make producers partially or fully responsible for the costs of recycling. This is changing, and two trends can be observed:

- an increasing focus on reduction, reuse, and recycled content in line with circular economy policies, for example the EU Packaging Regulation (Table 6), although it appears that some of the reuse and recycled content targets have been reduced in the final position agreed by the European Parliament in November (Taylor, 2023)
- the addition of social objectives, such as community access to recycling services and job creation and economic objectives, such as shifting costs from local government to industry, or providing industry access to recycled materials.

Table 6: Proposed EU Packaging Regulation objectives and targets (European Commission, 2022)

| OBJECTIVES   | TARGETS  |
|--|--|
| <b>1. Reduce the generation of packaging waste</b>                         | <ul style="list-style-type: none"><li>• Reduction – Reduce packaging waste generated per capita by 5% by 2030, 10% by 2035, and 15% by 2040 (c.f. 2018)</li></ul>  |
| <b>2. Promote a circular economy for packaging in a cost-efficient way</b> | <ul style="list-style-type: none"><li>• Reuse or refill targets – e.g., Proportion of sales of packaging for cold and hot beverages (20% by 2030 and 80% by 2040), packaging for ready-made food for immediate consumption (10% by 2030 and 40% by 2040) etc.<sup>7</sup></li><li>• Recycling rate targets – 65% of all packaging by 2025 and 70% by 2030 (50% and 55% for plastic packaging)</li><li>• Recyclability targets – all packaging to be designed for recycling (from 2030), separately collected, sorted, and recycled, and (from 2035), 'recycled at scale'</li></ul> |
| <b>3. Promote the uptake of recycled content in packaging</b>              | <ul style="list-style-type: none"><li>• Recycled content targets based on material type and application, e.g., 30% for single use plastic beverage bottles by 2030 and 65% by 2040</li></ul>   |

Overall (all packaging) recycling targets vary considerably between jurisdictions, for example 40% by 2030 in California and 76% by 2030 proposed in the UK. Australia does not have an overall target and only a voluntary target of 70% for plastic packaging.

<sup>6</sup> The Essential Requirements are Annex II of the Directive. The CEN Standards provide producers with a self-assessment tool to demonstrate compliance with the Essential Requirements.

<sup>7</sup> These targets look set to be removed from the final version of the Regulation (Taylor, 2023)

When the first Container Deposit Scheme (CDS) was established in South Australia (SA) in 1977, its primary aim was to reduce beverage container litter. Later schemes have added resource recovery and other economic and social objectives such as job creation and opportunities for social enterprises.

A review of the SA scheme, completed in 2021, proposed that its objectives be updated to 'litter control; resource recovery and product stewardship; and strengthen the promotion of the circulation of materials through resource recovery and support a strong market for recovered resources within a circular economy' (EPA SA, 2021, p. 6).

Non-environmental targets are generally established by Product Stewardship Organisations (PSOs) rather than through government regulation. Recycle BC, for example, has established performance targets in areas such as community access to and awareness of recycling services (Recycle BC, 2022). The proposed NZ scheme must achieve free and convenient collection of plastic packaging for household and business consumers at end-of-life, including rural populations (New Zealand Government, 2020).

### *Outcomes (environmental, social, and economic)*

Recycling rates are generally the only outcomes publicly reported by most jurisdictions and individual schemes.

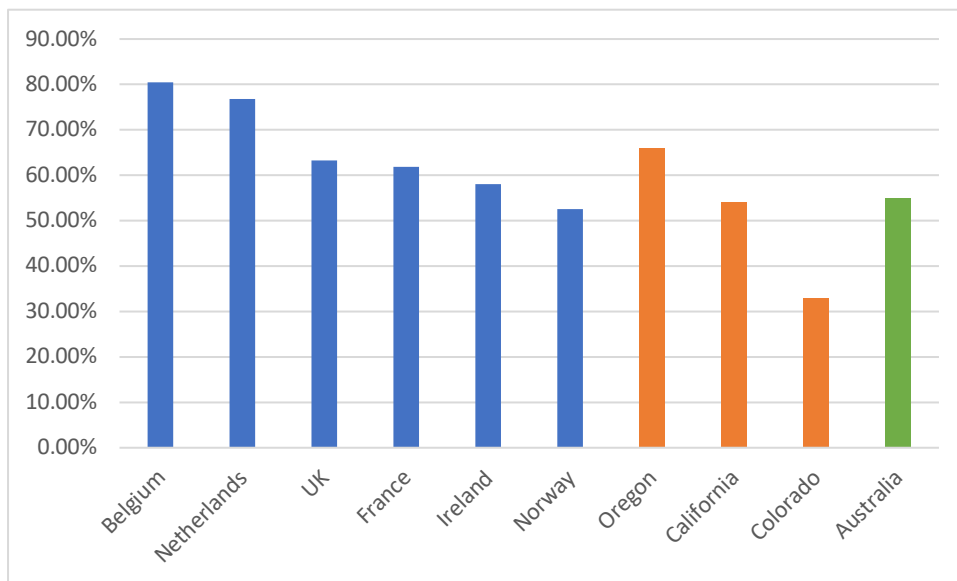
Recycling rates for European schemes included in this review are shown in Figure 1. In the past, Member States have measured recycling at different points in the recovery chain, with some using data on quantities of material collected or sorted rather than the quantity being recycled (Eurometaux, 2016). This makes comparisons between jurisdictions difficult. The new EU Packaging Regulation will require standardised reporting at the point that material enters the final recycling operation, i.e. any losses in the sorting process should be excluded. Losses in recycling operations due to their 'inherent nature' should *not* be excluded (European Commission, 2022, p. 42).

The best available data from US schemes reviewed here is for a narrower range of packaging items, referred to as 'common containers and packaging materials'. This excludes many materials, including cardboard and flexible plastics (Eunomia, 2021).

Australian data on recycling is measured further along the recovery chain, i.e. at the outgoing gate of the secondary recycling facility (APCO, 2023). This means that, in contrast to the EU regulation, processing losses are excluded from the recycling rate.

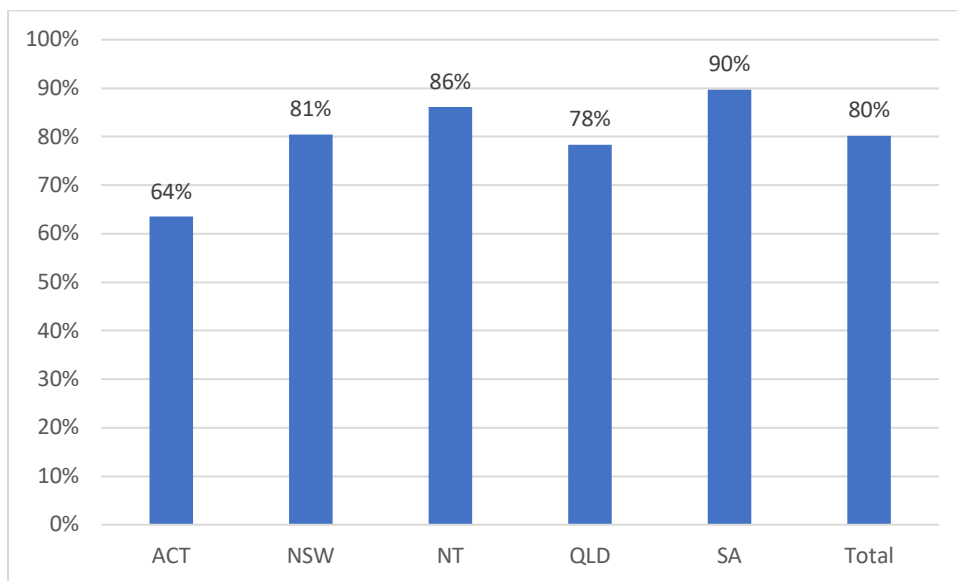
Recycling rates for packaging covered by Australian CDSs vary widely, but this is largely due to the length of time the schemes have been operating, which affects collection and redemption rates (Figure 2).

Figure 1: Packaging recycling rates in Australia, selected European countries and selected US states, 2021 (note: scope and methodology vary so may not be directly comparable)



Sources: (APCO, 2023) (Eurostats, 2023) (Eunomia, 2021). Note: US data is for selected packaging only.

Figure 2: Recycling rates for container deposit-eligible packaging in Australian states and territories, 2020-21



Source: (APCO, 2023, p. 148)

### Financing (who, how, what)

The majority of packaging product stewardship schemes including Australian CDSs are either funded entirely by producers (often referred to as liable parties) or by multiple actors in the supply chain (Table 7).<sup>8</sup> The most common funding instrument is a fee or levy based on the weight of packaging placed on the market. Regulated schemes tend to have minimum thresholds for payment of the levy, with producers under this threshold either paying a fixed fee or no fee at all. The levy is designed to fund operations (usually

<sup>8</sup> However, it should be noted that schemes often co-invest with government in recycling infrastructure projects and market development initiatives.

collection and recycling) as well as other scheme administration costs such as marketing, education, research and development etc.

In the case of the Australian Packaging Covenant (APC), liable parties pay a membership fee to the Australian Packaging Covenant Organisation (APCO) based on turnover. These funds do not pay for the operational costs of collection and recycling but are used for industry recruitment and engagement, member resources and training, data collection, reporting, consumer education and labelling, compliance, facilitating product stewardship schemes for problematic materials and general administration.

Table 7: Liable parties/participants

| OPTIONS                  | DESCRIPTION/ COMMENT  | EXAMPLES  |
|--------------------------|---|---|
| Producers (brand owners) | 100% funded by producers  | <ul style="list-style-type: none"> <li>British Columbia</li> <li>Oregon</li> <li>New UK scheme from 2024</li> <li>New Zealand (in development 2024)</li> </ul>  |
| Supply chain             | Costs are shared across the packaging supply chain  | <ul style="list-style-type: none"> <li>UK (prior to 2024):               <ul style="list-style-type: none"> <li>Raw manufacturer producers (6%)</li> <li>Converters (9%)</li> <li>Packers/ fillers (37%)</li> <li>Sellers (48%).</li> </ul> </li> </ul> |
| Thresholds               | Many schemes have a threshold for liable parties based on revenue or amount of packaging placed on market | <ul style="list-style-type: none"> <li>UK – producers handling &gt; 50 tonnes of packaging and turnover &gt; £2m</li> <li>Ireland – producers with turnover &gt; €1m or &gt;10 tonnes packaging</li> </ul>  |

Levies/fees increasingly include eco-modulation for recyclability and sometimes for other sustainability/circularity criteria such as recycled content (Table 8). Eco-modulation is used as a financial incentive to drive positive sustainability changes in packaging design, material selection, use and create demand for recycled materials, i.e., it is more likely to achieve a diversity of scheme outcomes compared to flat fees (Eunomia, 2020).

Table 8: Examples of eco-modulated fees

| OPTIONS                            | EXAMPLES   |
|------------------------------------|--|
| Fees adjusted for recyclability    | <p>France – ‘bonus-malus’ system penalises fibre packaging for elements disruptive to recycling e.g., inks, glues etc.</p> <p>UK – eco-modulated fees to be introduced from 2025-26 based on recyclability of material categories</p> <p>British Columbia charges differential fees for flexible plastics:</p> <ul style="list-style-type: none"> <li>Plastic film 1.13 c/kg (AUD\$1.21)</li> <li>Plastic laminates 1.40 c/kg (AUD\$1.50)</li> </ul> |
| Fees adjusted for recycled content | France – Flexible polyethylene (PE) plastics receive a 30% credit for 50% recycled content, and a 50% credit if the share from household plastics is at least 20%.   |
| Other adjustments                  | France – Flexible PE plastics receive a 5% credit if they have the recycling logo (Triman) and 8% if they also provide full sorting guidelines   |



## Governance (regulatory models)

There is a clear trend towards increased product stewardship regulation of packaging, requiring producers to address growing levels of packaging consumption and waste generation. These include funding the costs of collection, recycling and other actions that design out waste and pollution, keep packaging and materials circulating in the economy, restore nature and reduce carbon emissions.

The responsibility and role of governments in implementing a product stewardship regulation range substantially (Table 9) from a low level of involvement where government provides the overall framework in legislation, setting objectives, roles, and responsibilities (as in the case of the Australian NEPM for Used Packaging) to being actively involved by appointing product stewardship organisations, collection networks, collecting and distribution producer contributions.

Table 9: Examples of government responsibilities and roles in packaging stewardship regulations and schemes

| GOVERNMENT RESPONSIBILITY/LEVELS OF INVOLVEMENT     | HIGHER LEVEL OF INVOLVEMENT  | LOWER LEVEL OF INVOLVEMENT  |
|---|--|---|
| <b>Provide the overall framework in legislation</b> | Detailed, prescriptive regulations covering all aspects of scheme operation, e.g. proposed EU Regulation | Focus on objectives, roles and responsibilities, e.g. Australian NEPM and government engagement with APCO |
| <b>Establish operational requirements for PSOs</b>  | Prescribed in regulations or specifications, e.g. France   | Left to PSOs to determine best way to meet regulatory obligations, e.g. North American schemes            |
| <b>Appoint PSOs</b>                                 | PSOs contracted directly by government following a public tender, e.g. NSW and Victorian CDSs            | PSOs approved by government, e.g. North American schemes  |
| <b>Approve network operators</b>                    | Operators contracted directly by government following a public tender, e.g. NSW and Victorian CDSs       | Operators contracted by PSOs, e.g. Queensland and WA CDSs   |

In the geographic regions reviewed for this paper, the main regulatory trends are:

- introduction of product stewardship laws making producers responsible for environmental impacts of packaging for the first time in North America
- strengthening of existing product stewardship laws to increase producers' financial responsibility for recycling in the United Kingdom and British Columbia (Canada)
- shifting away from voluntary or co-regulatory industry-government agreements towards stronger regulatory approaches in Australia and some European countries (e.g. Norway and the Netherlands)
- widespread regulation of Deposit Return Systems (DRSs) for beverage containers in the EU and all Australian states and territories
- increased focus on addressing growing levels of packaging consumption and transitioning to a circular economy by reducing and reusing packaging primarily in the EU.

Product stewardship schemes in the EU are currently underpinned by the EU's Packaging and Packaging Waste Directive (PPWD), which provides Member States with considerable flexibility in how they transpose the Directive into national law. The PPWD requires Member States to implement measures to reduce packaging waste and to minimise the environmental impact of packaging. It established targets for recycling and Member States were required to set up return, collection, and recovery systems which are funded by producers. The governance structure to implement and fund return, and recovery systems differ between Member States (Appendix 1).

In 2024 it is expected that the PPWD will be replaced with a regulation to address the following identified failures in the current governance model (European Commission, 2022):

- poor implementation and enforcement by Member States
- poorly designed, hard to enforce and unevenly applied design standards for packaging which fail to reflect the waste hierarchy by recognising that reuse is preferable to recycling
- difficulties ensuring compliance with national recycling targets.

The proposed changes to the EU's regulatory framework include:

- additional targets for reduction in packaging and recycled content
- mandatory design for recycling standards
- mandatory DRSs for beverage containers
- minimum, harmonised standards for EPR schemes
- harmonised bans on single use plastic items.

Some individual Member States have already introduced more stringent regulations. The Netherlands, for example, has replaced the original Packaging Covenants with regulations (Rouwa & Worrell, 2011).

In the US, packaging stewardship schemes are relatively new. In 2016 the Product Stewardship Institute (PSI) developed model legislation for packaging stewardship and updated it in 2019 with input from industry and government. (Product Stewardship Institute, 2024) Many states have now introduced product stewardship Bills based on the model regulations. The first were passed in Maine and Oregon (2021) followed by California and Colorado (2022).

US schemes favour a market-based approach – that is, they set objectives for PSOs but provide flexibility on how this is achieved. Producers are required to submit plans to the regulator on how they will, individually or through a PSO, meet their regulated responsibilities.

In Australia, the NEPM for used packaging was introduced in 1998, and established the Australian Packaging Covenant as a quasi-voluntary agreement between the packaging supply chain and all levels of government. The NEPM has been transposed into state and territory regulations; producers can meet their obligations under the NEPM by either joining APCO, the PSO that administers the Covenant, or by meeting the objectives under each state and territory regulation. Unlike in Europe, the US and New Zealand, Australian producers are not obligated to pay for collection and recycling.

More recently, Australian states and territories have established CDS regulations for beverage containers, where producers are responsible for the costs of collection and recycling.

### Governance (implementation models)

Governance structures to implement regulations and schemes vary between jurisdictions, from complete outsourcing of responsibilities to PSOs (called Scheme Coordinators or Administrators in Australia), to implementation managed by government. Table 10 summarises some of the different implementation models for CDSs.

Table 10: implementation models for CDSs

| MODEL  | DESCRIPTION  | EXAMPLES  |
|--|--|---|
| <b>FULL RESPONSIBILITY</b>                                   |  |   |
| <b>One Scheme Coordinator (PSO)*</b>                         | The Scheme Coordinator has a contract with the state government to deliver services required to meet the requirements of legislation and regulation.<br><br>It has full responsibility for implementing the container return system including administration, audit, collection, recycling, and marketing/public awareness.  | Queensland, Western Australia                           |
| <b>Multiple Scheme Coordinators</b>                          | Multiple Scheme Coordinators, called 'Super Collectors'. Super Collectors may also operate facilities to physically handle and process the containers that are returned to collection depots for a refund.   | Northern Territory, South Australia                     |
| <b>SPLIT RESPONSIBILITY</b>                                  |  |   |
| <b>One Scheme coordinator and One network operator</b>       | The Scheme Coordinator oversees finances and administration, marketing/public awareness, and audit, while an independent Network Operator establishes and runs the network of Container Refund Points.<br><br>The Scheme Coordinator and Network Operator have separate contracts with the state to deliver CDS services. In this tripartite model, the Scheme Coordinator and Network Operator also have side agreements with each other. | New South Wales, Australian Capital Territory, Tasmania |
| <b>One Scheme Coordinator and multiple Network Operators</b> | Like the previous model, but with multiple Network Operators appointed by the government.  | Victoria  |
| <b>GOVERNMENT MANAGED</b>                                    |  |   |
| <b>Government managed</b>                                    | A government agency acts as the Scheme Coordinator.  | California <sup>9</sup>                                 |

\* PSOs for CDSs in Australia are generally referred to as the Scheme Coordinator.

Most PSOs operate as a not-for-profit (NFP) entity, and this is recommended as best practice by the Extended Producer Responsibility Alliance (EXPRA, 2013). North American regulations allow PSOs to operate as either for-profit or NFP organisations, although governments prefer NFPs because of their interest in greater data transparency.

The composition of PSO boards varies, with the majority of those reviewed controlled by either appointed industry associations or elected producers. Some are drawn from brand owners while others represent

<sup>9</sup> <https://calrecycle.ca.gov/bevcontainer/>

other sectors in the supply chain including packaging suppliers and retailers. Some examples are provided in Table 11.

Table 11: International examples of PSO board composition

| BOARD COMPOSITION  | EXAMPLES  |
|--|---|
| <b>Industry associations only</b>  | Plastretur (Norway) – associations representing packaging manufacturers, product manufacturers and retailers  |
| <b>Individual producers across the value chain</b>                           | Fost Plus (Belgium) – 27 members representing defined sectoral groups (different categories of users, material categories and distribution)<br><br>Repak (Ireland) – Six independents and six producers from across the value chain (two retail, two brand owners, one materials/packaging, one service industry) |
| <b>Individual producers and industry associations across the value chain</b> | APCO (Australia) – independents and elected board members in two categories i.e., brand owners and industry associations. 'Industry experts' can also be nominated by an association or the Board and there are 1-3 independent directors appointed.  |

Good governance requires transparent decision-making and public reporting on performance and financials. Under the proposed EU Packaging Regulation, PSOs are required to publish annual data on packaging placed on the market and levels of recovered and recycled materials they are responsible for.

Reporting requirements currently vary significantly between schemes and regulations, making comparison on environmental, social, economic, and financial performance challenging. Accurate and current data is important to understand the scale of the positive impact being achieved or claimed in terms of the environmental, social, or economic benefits.

#### *Operations (procedures, marketing, communications, EHS, compliance)*

There are different models for a PSO's involvement in collection and recycling operations as shown in table 12.

Table 12: Responsibility for collection and recycling operations

| OPTIONS  | EXAMPLES  |
|--|---|
| <b>A single Network Operator is engaged to manage collection and recycling</b> | British Columbia – Recycle BC has appointed a network coordinator to provide oversight for the transportation, processing, marketing, and reporting of materials collected across British Columbia.<br><br>Under the NSW CDS, the government has appointed a network operator to implement collection and recycling operations. |
| <b>The PSO reimburses municipalities for collection</b>                        | France – producers pay 75% of net costs of municipal schemes (total costs determined by the government).  |

|  |   |
|--|---|
|  | <p>Maine – reimbursement for the median per-ton cost of managing material that is readily recyclable and for the median per-ton cost of managing packaging that is not readily recyclable.</p> <p>Oregon – most collection will continue to be overseen by local governments, but PSOs will pay up-front costs for improving and expanding collection services and will provide services for certain hard-to-recycle materials.</p> |
| <p><b>The PSO reimburses multiple sectors/organisations for collection and recycling – industry, local govt, community etc</b></p> | <p>Ireland – ‘Recovery operators’ including the private sector, MRFs and local authorities are approved and funded by Repak.</p> <p>British Columbia – Recycle BC offers financial incentives to collectors including municipalities participating in the program.</p>  |

The effectiveness of a product stewardship scheme relies on high levels of awareness and participation by the targeted industry, consumers (i.e. the general public, business) and other actors such as local governments and service/end-market players. This is achieved through various strategies (Table 13).

The proposed EU Packaging Regulation outlines the obligations of PSOs to provide information to consumers, including on quantities of packaging waste being generated, reuse systems, recycling services, the role of consumers in recycling, and the meaning of labels.

Table 13: Examples of marketing and communications

| MARKETING AND COMMUNICATIONS STRATEGY                  | EXAMPLE   |
|--|---|
| Targets for consumer awareness and recycling behaviour | Recycle BC target to ‘Maintain a resident awareness rate of 90% or greater for PPP recycling program’ (Recycle BC, 2022, p. 45) |
| Consumer-facing websites                               | Fost-Plus website ‘Just, genius’ <sup>10</sup>  |
| Advertising campaigns                                  | Containers for Change (Western Australia) campaign: ‘Don’t feed the fill’ <sup>11</sup>   |
| On-pack labelling                                      | Australasian Recycling Label <sup>12</sup>  |

<sup>10</sup> [Just, genius](#)

<sup>11</sup> [Don’t feed the fill](#)

<sup>12</sup> [Australasian Recycling Label](#)

# LESSONS FOR PACKAGING STEWARDSHIP IN AUSTRALIA

## Status of packaging stewardship schemes in Australia

Packaging stewardship schemes in Australia include:

- NEPM for used packaging, including the APC
- State and territory regulated CDSs for beverage containers.
- Various industry-led and funded voluntary schemes (see Table 3).

An independent review of the NEPM in 2021 concluded that key elements ‘have not been implemented or operationalised effectively’ and that ‘this has created a lack of clarity for brand owners, enabled free-riders, reduced confidence in the scheme and meant that there is limited data available about the success of the co-regulatory arrangement’ (MPConsulting, 2021, p. 4).

At their meeting in late 2023, Australian environment ministers agreed that the Federal Government would step up as the new regulator of packaging standards. New laws will mandate how packaging is designed, set minimum recycled content requirements, and prohibit harmful chemicals from being used. Significantly, the ministers also agreed to make businesses take responsibility for the packaging they place on the Australian market (DCCEEW, 2023), which suggests that producers will have to assume greater financial responsibility for recycling. The new strengthened packaging regulations are expected to be implemented by the end of 2025 (DCCEEW, 2022).

Table 14 compares some of the recommendations of the independent review of the NEPM to the five characteristics of an effective scheme (Product Stewardship Centre of Excellence, 2023) and the Government response to the review in 2022.

Table 14: Recommendations of NEPM review and government response

| CHARACTERISTICS OF AN EFFECTIVE SCHEME <sup>13</sup>                    | SHORTCOMINGS IDENTIFIED BY THE NEPM REVIEW <sup>14</sup>  | GOVERNMENT RESPONSE <sup>15</sup>   |
|---|---|---|
| <b>High levels of industry or business investment and participation</b> | <p>Limited (or absent) monitoring and enforcement has undermined confidence in the scheme, enabled free riders and disincentivised participation.</p> <p>Lack of clarity regarding the definition of a liable brand owner, and obligations are not well understood.</p> <p>Compliance and enforcement by state and territory governments was limited.</p> | <p>The government will develop an effective and efficient monitoring and enforcement framework for the reformed scheme.</p> <p>The regulations will clarify the definition of liable parties and the types of packaging within scope.</p> |
| <b>Clearly defined objectives</b>                                       | <p>There are challenges measuring the effectiveness of the co-regulatory arrangement because there are no clear key performance indicators (KPIs) and data is either not</p>  | <p>The reformed scheme will require a clear and quantifiable goal, consistent with contemporary policy objectives, and that focuses on achieving a circular economy for packaging.</p>  |

<sup>13</sup> Product Stewardship Centre of Excellence (2023)

<sup>14</sup> MPConsulting (2021)

<sup>15</sup> Department of Climate Change Energy Environment and Water (DCCEEW, 2022)

|                                    |   |   |
|------------------------------------|---|---|
|                                    | available or not consistently collected and reported.   |   |
| <b>Good governance</b>             | The obligations of brand owners are not consistently applied or understood. Roles and responsibilities are not clearly defined.   | The reformed scheme needs to provide consistency and clarity to stakeholders about roles and responsibilities in meeting the agreed goal, targets and KPIs. |
| <b>Use of financial incentives</b> | Implementation of the reformed scheme should be met by government and ongoing costs by industry. Financial incentives were not considered by the review.  | The government noted the review's recommendations on funding.   |
| <b>Effective marketing</b>         | <p>The review found that the co-regulatory arrangement and the NEPM are not well understood by many stakeholders and more education on this is required.</p> <p>Stakeholders were consulted on mandating the Australasian Recycling Label, but the review did not recommend it. Instead, obligations should include accurate and truthful environmental claims.</p> | The government did not comment on this in their response beyond the need for accurate and truthful environmental claims.                                    |

## Applying global scan lessons to Australia's packaging reforms

The global scan has highlighted many important lessons that need to be considered by Australian governments as they reform and redesign current packaging stewardship schemes in Australia.

### Problem definition

A broader and clearer definition of the environmental and human health impacts of packaging across the entire lifecycle is required.

There is increasing recognition, both globally and within other Australian packaging stewardship schemes, that the environmental and human health problems are much broader than waste generation and consumption of virgin materials. It is now being positioned in some jurisdictions, particularly the EU, as a tool to reduce material consumption and improve material circularity<sup>16</sup>. Other problems being addressed by the proposed EU regulations include hazardous components and impacts on human health.

The current goal of the NEPM for used packaging, '... to reduce environmental degradation arising from the disposal of used packaging and conserve virgin materials ...' (Australian Government, 2011), is limited to end-of-life. It does not address the negative environmental and human health impacts at the design, production and use stages including unsustainable consumption of both renewable and non-renewable resources, use of non-renewable energy, carbon emissions, pollution from hazardous substances and waste generation.

### Scope (product class and types)

A detailed definition of the scope is required. It should include all packaging placed on the market in Australia and include a list of exemptions such as packaging covered by the existing regulated CDSs, and:

- Both locally manufactured and imported packaging

<sup>16</sup> The South Australian CDS is one example: a review of the scheme recommended that it should also '...strengthen the promotion of the circulation of materials through resource recovery and support a strong market for recovered resources within a circular economy' (EPA SA, 2021, p. 7).

- Packaging placed on the market, either filled with product or unfilled
- All household packaging, whether consumed at or away from home
- Packaging used for online purchases
- All B2B packaging.

The scope of the reviewed schemes ranged from a narrow focus on plastic household packaging (e.g. New Zealand) through to all packaging placed on the market. The scope needs to relate to the problem being addressed, and whether product stewardship arrangements are needed for all packaging or a sub-section.

Some regulations define the scope in considerable detail to avoid gaps and misunderstandings.<sup>17</sup> Some schemes exempt packaging already covered by deposit return systems. Exemptions from certain obligations may need to apply to packaging covered by another scheme, such as a CDS.

The review of the NEPM reported that many brand owners are confused about their obligations, including whether it covers both consumer-facing and B2B packaging, and both imported packaging and packaging manufactured in Australia (MPCConsulting, 2021, p. p. 26).

### *Scope (lifecycle stages)*

The scheme should address the entire packaging lifecycle, and the SPGs should be replaced with mandatory design standards for:

- Avoidance and material efficiency
- Recyclability – compatibility with existing or proposed collection and recycling systems including elimination of materials that may inhibit circularity
- Biodegradability and compostability
- Consumer labelling
- Elimination of hazardous components.

Most of the earliest product stewardship schemes targeted waste at end-of-life, but increasingly product stewardship schemes aim to address the entire packaging lifecycle.

Members of APCO are obligated to integrate the SPGs in design and procurement processes. While the SPGs do cover the entire lifecycle, they are only a guideline rather than a mandatory requirement.

### *Objectives and targets*

The global scan highlighted a trend to include objectives and targets that address environmental and health impacts over the entire packaging lifecycle as well as social, economic and governance objectives.

Environmental objectives could include continuous improvement in minimising waste and harm and maximising benefit from packaging at end-of-life. Social objectives may include access to free and convenient collection services for all household and business consumers, including rural populations.

One economic objective would be full net costs for stewardship of packaging at end of life being met by producers. Another important objective is around governance for transparency of decision making and reporting for example publishing annual reports that include measurement of outcomes and achievement of targets, fees collected and disbursed, and net cash reserves held as contingency.

Targets should reflect the objectives and be specific and measurable. Specific targets to be considered,

<sup>17</sup> See for example, Article 2 of the proposed EU regulation (European Commission, 2022, p. p. 49)



at a minimum, include:

- a quantitative reduction in packaging consumption per capita
- reuse, collection and recycling rates, increasing over time
- packaging design, including recyclability and recycled content
- a minimum level of public access to collection services
- increasing public awareness of collection services, participation in the scheme and understanding of packaging labels.

### *Financing*

Producers should be made responsible for funding the reformed scheme, including the net costs of collecting and recycling household and business packaging waste.

This should be funded using a producer levy based on the quantity of packaging placed on the market each year. The levy should also be eco-modulated to incentivise sustainability design changes including recyclability and recycled content, i.e.:

- Higher fees for hard-to-recycle materials and formats
- Lower fees for packaging with post-consumer recycled content.

While schemes should have some discretion on how funds are spent, there should be investment by the scheme in the following activities:

- End-market development: activities to support increased demand for recycled materials e.g., by promoting post-consumer recycled content in packaging, standards or specifications etc.
- Research and development: funding for innovation to improve products and processes, e.g., new business models or recycling technologies
- Marketing and promotion to packaging users: information on the scheme, how to participate, how to reuse, where to recycle etc.
- Education and awareness: to build consumer and business awareness and knowledge on what packaging is made from, how packaging can be reused and recycled etc.
- Auditing, reporting and compliance
- Administration and overheads.

Regulated packaging stewardship schemes fund the costs of collecting and recycling packaging, either in part or in full depending on the regulatory and institutional context. Producers operating within the EU are also required to fund litter programs for single-use plastic packaging (European Commission, n.d.).

### *Governance (regulatory and implementation models)*

Under the Australian NEPM currently, most liable parties meet their obligations by joining APCO. While there are provisions under the NEPM for jurisdictions to exempt organisations if they can demonstrate that a business or industry program delivers 'equivalent outcomes' to the covenant, this provision 'has not been consistently or effectively implemented' (MPCConsulting, 2021, p. p. 31).

As a minimum, a national regulation is required that mandates producer responsibilities for the environmental and human health impact across the entire packaging lifecycle. It should define the scope of packaging types covered, the environmental, social, and economic objectives including national targets to reduce, reuse and recover packaging, design standards (i.e. recycled content, material bans etc.), consumer access, awareness and participation to be measured and reported annually. Producers (i.e.

organisations who first place packaging on the market in Australia) should be clearly defined along with their financial and operational obligations.

Such organisations include:

- Companies selling packaged products in Australia, regardless of whether they were packed in Australia or overseas
- Retailers selling own brand products
- Packaging suppliers selling unfilled packaging, unless sold to a producer already liable to pay the levy (e.g. a major quick service restaurant)
- Online marketplaces selling packaging or packaged products direct to consumers.

The definition should be subject to a threshold to exempt companies placing small quantities of packaging on the market. This threshold could be based on turnover, packaging weight, or a combination of both.

The definition of 'producer' is used to identify which organisations are liable to pay for the product stewardship scheme operations. The NEPM review identified confusion and inconsistencies in the way that producers ('brand owners') are defined, for example, the extent to which it includes B2B packaging (MPCConsulting, 2021, pp. 26-7). Definitions used in some other schemes, for example in the UK, are becoming increasingly prescriptive to both improve clarity and ensure that all packaging is covered.

There should also be some minimum requirements for how the scheme will be administered/implemented (i.e. this could be one or more PSOs and could include the appointment of network operators).

The global scan identified a variety of implementation models. Some allow for two or more PSOs while some have only one PSO appointed by the government. The Belgian scheme, for example, has one PSO for household and away-from-home packaging (Fost Plus) and another one for C&I packaging (VAL-I-PAC), while the Netherlands has only one PSO covering all packaging (STaV). Alberta's regulation allows for more than one PSO for each designated material, while the new UK regulations will introduce a central Scheme Administrator to collect product fees (the 'disposal cost') from producers while PSOs would assist with other obligations such as data reporting. The majority of PSOs reviewed are NFP organisations.

In line with other schemes across the globe, Australia's national regulation – as a minimum – should also outline the responsibilities of a PSO to deliver the objectives of the regulation and reporting requirements.

There may be value in establishing separate PSOs/schemes for packaging types where there are likely to be unique collection systems, cost structures and supply chains, for example, to differentiate:

- Consumer packaging collected through kerbside systems, which are controlled by local governments and relatively uniform
- Other consumer packaging not compatible with kerbside collection and automated sorting systems (e.g. expanded polystyrene)
- Consumer packaging already covered by an existing product stewardship scheme such as beverage containers (although container deposit schemes are only focused on end-of-life, and don't include secondary and tertiary packaging)
- B2B packaging collected by commercial operators.

A good example of reporting is the product stewardship regulations in British Columbia (2023), that require annual reports to be published online and include, as a minimum:

- a description of educational materials and educational strategies the producer uses

- the location of the producer's collection facilities including their number and location
- efforts taken ... to reduce environmental impacts throughout the product lifecycle and to increase reusability or recyclability
- a description of how the collected product was managed in accordance with the pollution prevention hierarchy
- the total amount of the producer's product produced and collected and, if applicable, the producer's recovery rate
- the total amount of the producer's product collected in each regional district
- independently audited financial statements
- a comparison of the approved plan's performance for the year with the performance measures, performance requirements and targets referred to in the EPR plan.

Other factors that should be considered are the level of detail included in the regulation on the process of appointing a PSO, financing (levies, incentives, eco-modulation), operational procedures, compliance and risk management, marketing and communications, research and development.

Development of the regulation should of course be done in consultation with producers, state, territory and local governments and other relevant stakeholders.

## APPENDIX 1: GLOBAL SCHEME FEATURES

### Europe

- Proposed EU Regulation on Packaging and Packaging Waste
- Belgium (Fost Plus)
- Ireland
- France
- Netherlands
- Norway
- United Kingdom

### United States

- California
- Colorado
- Oregon

### Canada

- Alberta
- British Columbia

### Australia

- National Environment Protection (Used Packaging) Measure (NEPM)/Australian Packaging Covenant (APC)
- NSW CDS
- South Australia CDS
- Queensland CDS
- Northern Territory CDS
- Australian Capital Territory CDS
- Victoria CDS
- Tasmania CDS

### New Zealand

## Europe

### Proposed EU Regulation on Packaging and Packaging Waste

| CHARACTERISTICS          | DETAIL   |
|--------------------------|--|
| Regulatory model         | <p>The <a href="#">Packaging and Packaging Waste Directive (94/62/EC)</a> introduced in 1994 and amended several times since will be replaced with a <a href="#">Regulation</a> (expected 2024). This in response to <a href="#">perceived regulatory failures</a> in the current model: failures in the current model:</p> <ul style="list-style-type: none"> <li>• delayed or incorrect transposition into national law,</li> <li>• poorly designed, hard to enforce and unevenly applied Essential Requirements</li> <li>• difficulties ensuring compliance with national recycling targets.</li> </ul> <p>The Regulations introduce mandatory standards and targets for excessive packaging, reuse, design for recycling, compostability, EPR and DRS schemes etc.</p>   |
| National or state        | EU – to be implemented by Member countries   |
| The problem              | <p>According to the <a href="#">Impact assessment report</a>:</p> <ul style="list-style-type: none"> <li>• Environmental: Increasing consumption of packaging which is a key user of virgin materials (40% of plastics and 50% of paper use in the EU is for packaging) and packaging represents 36% of municipal solid waste. Low levels of reuse and poor recycling stand in the way of achieving a low-carbon circular economy. Over-exploitation of natural resources, pollution of land and sea.</li> <li>• Economic: market failures (e.g., externalities) and shortcomings in the current regulatory framework.</li> </ul>  |
| Packaging scope          | All packaging  |
| Lifecycle stages         | Production (design), Consumption (use), Post-consumption (end of life)   |
| Proposed objectives      | <ol style="list-style-type: none"> <li>1. Reduce the generation of packaging waste</li> <li>2. Promote a circular economy for packaging in a cost-efficient way</li> <li>3. Promote the uptake of recycled content in packaging</li> </ol>   |
| Proposed targets         | <ul style="list-style-type: none"> <li>• Reduction – bans on additional single use plastics; reduce packaging waste generated per capita by 5% by 2030, 10% by 2035, and 15% by 2040 (c.f. 2018)</li> <li>• Reuse or refill – several targets e.g., sales packaging for cold and hot beverages (20% by 2030 and 80% by 2040), etc. [Note: these may be removed from the final version (Taylor, 2023)]</li> <li>• Recycling – 65% of all packaging by 2025 and 70% by 2030 (50% and 55% for plastic packaging)</li> <li>• Recyclability – all packaging to be designed for recycling (from 2030), separately collected, sorted, and recycled, and (from 2035), 'recycled at scale'</li> <li>• Recycled content – based on material type and application, e.g., 30% for single use plastic beverage bottles by 2030 and 65% by 2040</li> <li>• Composting – Tea/coffee bags, coffee pods, sticky labels on fruit and vegetables, very lightweight plastic carrier bags to be industrially compostable</li> </ul> |
| Outcomes                 | Yet to be implemented. Current recycling rate for EU – 64% ( <a href="#">2021</a> )  |
| Funding instrument       | Regulations include harmonised requirements for EPR and deposit and return systems   |
| Financial incentives     | EPR schemes to include eco-modulation of EPR fees based on defined packaging recyclability grades and for plastic packaging, on the percentage of recycled content.  |
| Governance               | <p>The Regulation outlines requirements for authorisation of PSOs and their reporting obligations (Articles 41/42).</p> <p>PSOs are required to publish annual data on packaging placed on market and levels of recovered and recycled materials they are responsible for (Article 41). Member States must report annually to the EC on progress against targets (Article 50).</p>   |
| Operations               | Regulation includes general obligations of PSOs.   |
| Marketing/communications | PSOs must provide information to consumers on packaging waste, reuse systems, their role in recycling, the meaning of labels etc (Article 49).   |

## Belgium (Fost Plus)

| CHARACTERISTICS          | DETAIL  |
|--------------------------|---|
| Regulatory model         | The legal framework is the <a href="#">Cooperation Agreement on the prevention and management of packaging waste</a> administered by the <a href="#">Interregional Packaging Commission (IPC)</a> .   |
| National or state        | National  |
| The problem              | <ul style="list-style-type: none"> <li>• Compliance with EU directives</li> <li>• Prevent packaging waste and meet 'an urgent social need to step up the fight against litter'</li> <li>• High costs of treating household hazardous waste, which should be borne by producers</li> </ul>   |
| Packaging scope          | The Agreement covers all packaging. <a href="#">Fost Plus</a> covers household and out of home packaging. A separate scheme for commercial & industrial packaging is VAL-I-PAC.   |
| Lifecycle stages         | Production (design), Consumption (use), Post-consumption (end-of-life)  |
| Objectives               | Objectives in the Cooperation Agreement: <ul style="list-style-type: none"> <li>• To prevent or reduce the production or the harmfulness of packaging waste</li> <li>• To reduce the weight of single use packaging</li> <li>• To increase the proportion of reusable packaging</li> <li>• To increase the proportion of recycled materials in packaging</li> <li>• To reduce the proportion of packaging waste in non-selective collection systems</li> <li>• To oblige responsible companies to bear the full cost of collecting, recovering and disposing of packaging waste.</li> </ul> |
| Targets                  | Fost Plus targets <ul style="list-style-type: none"> <li>• 95% household packaging recycling (2025)</li> <li>• 70% plastics recycling (2030)</li> <li>• 90% beverage packaging collection (2020)</li> <li>• 65% plastics recycling rate (2023) – <i>above the mandatory target of 50%</i></li> <li>• 100% of packaging has a recycling solution (2025)</li> </ul>   |
| Outcomes                 | <a href="#">National recycling rate</a> 80.4% (2021)<br><a href="#">Results</a> for Fost Plus (2021) <ul style="list-style-type: none"> <li>• 89.8% of all household packaging recycled</li> <li>• 98% of household packaging recyclable</li> <li>• 52% of plastic packaging recycled – exceeds EU goal for 2025</li> <li>• 9.3 kg plastic packaging collected per inhabitant</li> <li>• 107,000 tons plastics recycled per inhabitant</li> <li>• 90% beverage recycling rate (without a CRS)</li> </ul>  |
| Funding instrument       | Responsible companies (responsible for > 300t of one-way packaging) pay a weight-based levy. Associate members pay a one-off joining fee of €12,500.  |
| Financial incentives     | The levy is <a href="#">eco-modulated</a> based on the material and its recyclability to reflect actual costs (the 'circular deficit') and incentivise design for recycling.  |
| Governance               | Fost Plus is a NFP entity established in 1994 and accredited by the Interregional Packaging Commission (IPC). Its 27 Board Members represent defined sectoral groups (different categories of users, material categories and distribution).<br>Producers must report annually to the IPC on the quantity, type and recycling rate of packaging they place on market, either individually or through a PSO.  |
| Operations               | Fost Plus has negotiated nine-year contracts with sorting companies to help deliver high end sortation systems. Municipalities deliver the materials to sorting centres.<br>Fost Plus owns and controls the material flow. It has nine-year contracts with recyclers/processors in Belgium to maximise investment by private industry and to ensure processing takes place in Belgium.  |
| Marketing/communications | Fost Plus has a consumer facing <a href="#">website</a> . <a href="#">Click</a> is a behaviour change program to reduce litter.   |

## Ireland (Repak)

| CHARACTERISTICS          | DETAIL   |
|--------------------------|--|
| Regulatory model         | The legal framework is the <a href="#">European Union (Packaging) Regulations 2014</a>   |
| National or state        | National   |
| The problem              | <ul style="list-style-type: none"> <li>• Compliance with EU Packaging Directive</li> <li>• Quantity of packaging placed on market, packaging waste</li> </ul>  |
| Packaging scope          | Household and 'backdoor' packaging made from any material: primary, secondary and tertiary. Includes packaging filled at point of sale.<br><i>Backdoor waste:</i> Producers are also responsible for waste arising from secondary and tertiary packaging which is received by a producer but is not thereafter used in the supply of products.   |
| Lifecycle stages         | Production (backdoor waste) and Post-consumption.  |
| Objectives               | Repak aims to: <ul style="list-style-type: none"> <li>• reduce the amount of packaging on the Irish market</li> <li>• ensure that businesses are contributing to the recycling and recovery of the material they place on the market</li> <li>• build a true circular economy whereby packaging material is captured for reuse.</li> </ul>   |
| Targets                  | Repak targets: <ul style="list-style-type: none"> <li>• Recycling 65% and Recovery 75%</li> <li>• Plastics recycling 35%</li> </ul>  |
| Outcomes                 | <a href="#">National recycling rate</a> 58.1 (2021)<br><a href="#">2021 outcomes</a> reported for Repak: <ul style="list-style-type: none"> <li>• recycling rate of 66% and recovery rate of 96%</li> <li>• exceeded the EU packaging recycling targets for all materials including plastic packaging at 31% (behind internal target but &gt; EU target of 22.5%)</li> </ul>   |
| Funding instrument       | 'Regular Members' pay a weight-based levy. Those with a turnover > 1 million Euros that place >10 tonnes of packaging on the market are classified as Major Producers. 'Scheduled members' (non-brand owner SMEs who retail directly to consumers and are not brand owners) and 'Non-Major Members' pay a fixed fee based on turnover.   |
| Financial incentives     | Levies are eco-modulated based on material type, role in the supply chain and costs of recycling (refer to <a href="#">Annual Report 2021</a> ). Fee categories are: <ul style="list-style-type: none"> <li>• Recycled plastics rigid</li> <li>• Recycled plastics flexible</li> <li>• Non recycled plastics</li> <li>• Beverage bottles PET</li> <li>• Beverage bottles other plastics.</li> </ul>  |
| Governance               | <a href="#">Repak Limited</a> is a NFP entity established in 1997. It is Ireland's only compliance scheme for the recovery of packaging waste. In 2021 the Board included six elected Repak Member representatives (must include two retail members, two brand owner members, one distributor/wholesaler/converter member and one scheduled member representative); six independents; and the CEO.<br><br>Repak is required to provide an annual report to the Minister (detailed requirements are outlined in their <a href="#">regulatory approval document</a> ).<br><br>Enforcement of the regulations is the responsibility of local authorities with support from the Office of Environmental Enforcement in the EPA and the Department. |
| Operations               | Repak does not own or manage recycling facilities. Collection and recycling is carried out by a combination of public and private 'Recovery Operators': private sector collectors, material recovery facility operators and local authorities (county councils) who are approved and funded by Repak.  |
| Marketing/communications | Repak's <a href="#">approval</a> to operate as a PSO requires them to '...operate a program of national and sectoral educational and awareness raising activities for packaging waste holders to inform on prevention, centres for reuse, takeback and collection systems and prevention of littering'. They are also required to contribute to national programs for education, standards, and labelling.   |

## France (CITEO)

| CHARACTERISTICS          | DETAIL   |
|--------------------------|--|
| Regulatory model         | EPR regulation ( <a href="#">Responsabilité Élargie du Producteur</a> ) – part of <a href="#">LAW no. 2020-105 of February 10, 2020 relating to the fight against waste and the circular economy</a><br>The <a href="#">EU tax on non-recycled plastics</a> was introduced from January 2021 (being imposed at a uniform rate of EUR 0.80 kg).   |
| National or state        | National   |
| The problem              | <ul style="list-style-type: none"> <li>• Lifecycle environmental impacts of packaging</li> <li>• Packaging waste</li> </ul>  |
| Packaging scope          | All household packaging and paper  |
| Lifecycle stages         | Production (design) and Post-consumption (end-of-life)   |
| Objectives               | <p><a href="#">CITEO's</a> purpose: To respond to ecological emergencies and accelerate required changes, CITEO wants to engage and support economic stakeholders to produce, distribute and consume while protecting our planet, its resources, biodiversity and the climate.</p> <p>Objective: To reduce the environmental impact of CITEO's customers' products, by embedding a circular economy and eco-design in their practices and strategies.</p>  |
| Targets                  | <p>Reduction: 20% reduction in single use plastic by 2025</p> <p>Reuse: 10% of household packaging by 2027. From 2023 CITEO is required to invest 5% of their contributions in reuse projects</p> <p>Recycling: 70% recycling rate for household packaging by 2030 (EU target)</p>   |
| Outcomes                 | <p>Recycling rate 66% for household packaging (2021) compared to EU target of 65% by 2025 (based on new EU methodology, i.e. measured going into the final recycling process rather than out of the MRF)</p> <p>Plastic packaging 23% (2021) compared to EU target of 50% by 2025</p>  |
| Funding instrument       | Producers pay 80% of net costs for collection and treatment of all household packaging and contribute to communication costs for municipalities. This is raised through an eco-modulated fee based on weight and number of Consumer Sales Units (CSU).   |
| Financial incentives     | <p>The eco-modulated fee decreases or increases the contribution paid by manufacturers based on a 'bonus-malus' (reward-penalty) system for recyclability and recycled content. Basic rate varies for different polymers/formats. Bonuses are awarded for:</p> <ul style="list-style-type: none"> <li>• Awareness raising about sorting</li> <li>• Reduction at source (unit weight or number)</li> <li>• Post-consumer recycled content.</li> </ul> <p>Penalties are awarded for:</p> <ul style="list-style-type: none"> <li>• PE or PP density &gt;1 – 10% penalty</li> <li>• Dark non-detectable particularly carbon black – 50% penalty</li> <li>• Opaque PET, specific composites, PVC – 100% penalty.</li> </ul> |
| Governance               | <p><a href="#">CITEO</a> is a NFP that resulted from the merger, in 2017, of EPR schemes for household packaging (Eco-Emballages, created in 1992) and graphic papers (Ecofolio, created in 2007). Its governance is representative of the materials sectors involved in both the production and marketing of packaging and paper, as well as in the recovery of recycled materials. They are not the only PSO for these materials (e.g. <a href="#">Leko</a> is another) but they are the largest.</p> <p>Shareholders are divided into six colleges. CITEO's <a href="#">Board of Directors</a> has 18 directors representing shareholders and subsidiaries, as well as a State censor.</p>                          |
| Operations               | CITEO pays for reimbursement of local government for 80% of net costs of collection and recycling including communications. Material ownership stays with local government. Funding also directed to litter management, away from home collections and reuse projects.   |
| Marketing/communications | CITEO's <a href="#">website</a> includes targeted information for citizens. In 2023 they launched a <a href="#">communications campaign</a> under the slogan 'We don't give up' to encourage correct sorting. There are mandatory requirements for labelling ( <a href="#">Triman logo</a> and sorting instructions). More activities are outlined in its <a href="#">Annual Report</a> .  |



## Netherlands (The Dutch Packaging Waste Fund [StAV] and Nedvang)

| CHARACTERISTICS          | DETAIL   |
|--------------------------|--|
| Regulatory model         | <p>Producer responsibility is laid down in the <a href="#">Packaging Management Decree</a> 2014. In the <a href="#">Packaging Framework Agreement</a>, the national government, municipalities and the packaging industry have agreed on the implementation of producer responsibility and the role of the Dutch municipalities in this.</p> <p>The <i>Packaging Waste Management Contribution Agreement (Waste Contribution Agreement)</i>, which provides the financial basis for establishing, maintaining, financing and implementing a packaging waste management structure, which was originally voluntary, <a href="#">has now been mandated</a> until 2027 at the request of industry groups. Producers participate in the waste management structure and therefore pay a waste management contribution to StAV.</p> <p>There is also a DRS for plastic beverage bottles and metal cans (as of 1 April 2023).</p>                                  |
| National or state        | National   |
| The problem              | <ul style="list-style-type: none"> <li>• Waste and recycling</li> <li>• Heavy metals in packaging</li> </ul>   |
| Packaging scope          | Household and B2B packaging  |
| Lifecycle stages         | Production (design), Post-consumption (end-of-life)  |
| Objectives               | <p>Environmental – objectives in the Packaging Management Decree and the Waste Contribution Agreement include reduce packaging weight, design for reuse/recycling, increase recycled content, eliminate heavy metals etc.</p> <p>Economic – The purpose of the <a href="#">Packaging Waste Management Contribution Agreement</a> is to realise a stable (financial) basis for a properly functioning waste management structure</p>  |
| Targets                  | <p>EU Packaging Decree: 65% recycling rate by 2025 and 70% by 2030</p> <p>Packaging Decree: The manufacturer or importer must ensure that 75% of their packaging is recovered and 70% recycled by 2021 (material specific rates e.g., 51% for plastics)</p>  |
| Outcomes                 | <a href="#">National recycling rate</a> 76.8% (2021)   |
| Funding instrument       | Producers marketing >50,000 kg pa are liable under the Packaging Decree and pay a weight-based levy to StAV.   |
| Financial incentives     | The levy is <a href="#">eco-modulated</a> . The rate per category of material is determined by the costs involved in collecting, separating and recycling that specific material.  |
| Governance               | <p><a href="#">StAV</a> and <a href="#">Nedvang</a> are NFP entities. StAV Directors are appointed by each obligated industry (e.g., food, non-food and retail companies).</p> <p>StAV, Nedvang, The Netherlands Institute for Sustainable Packaging (KIDV) and Nederland Schoon (Netherlands Clean Foundation) have combined into one organisation and will operate under the name <a href="#">Verpact</a> from March 1, 2024.</p> <p>Producers, individually or through a PSO, must submit annual reports to the Minister accompanied by documents demonstrating the accuracy of the data in the report.</p>   |
| Operations               | <p>Regions are responsible for waste management. The Association of Dutch Municipalities (VNG) and StAV made new agreements for the collection and recycling of packaging waste which are laid down in the 'Chain Agreement 2020-2029'. This agreement includes models for the collection and/or recycling of plastic packaging waste, metal packaging waste and beverage cartons from which a municipality can choose.</p> <p>StAV and VNG agreed that municipalities can choose to limit their role in the recycling of plastic packaging waste to collection or to join a partnership of municipalities (which then arranges further processing).</p> <p>StAV reimburses the costs of sorting and marketing directly to the public authorities and private contracting parties. Nedvang contracts with parties responsible for the transport, storage and trans-shipment, post-separation, sorting and recycling of mainly plastic packaging waste.</p> |
| Marketing/communications | Information is provided to consumers through funded campaigns such as 'Plastic Heroes' and 'Glas in 't bakkie', or through the activities of Nederland Schoon.   |

## Norway (Green Dot Norway)

| CHARACTERISTICS          | DETAIL  |
|--------------------------|---|
| Regulatory model         | <p>Producer responsibility was previously based on voluntary agreements between the Norwegian government and industry. Alongside other commitments, industry pledged to achieve the EU recycling and recovery targets.</p> <p>The scheme is now regulated under the <a href="#">Waste Regulations</a> (2018). The changes include an increased focus on waste prevention, statutory recycling targets and a producer definition to tackle free riders. There are also 2 voluntary deposit systems for PET-bottles</p>   |
| National or state        | National  |
| The problem              | Excess packaging, packaging not designed for reuse or recycling, impact of hazardous components in recycling or incineration, packaging waste generated by households and businesses  |
| Packaging scope          | All packaging except beverage packaging, which is subject to a tax.   |
| Lifecycle stages         | <p>Production (Design), Post-consumption (end-of-life)</p> <p>There are requirements for reduction, reuse and design for recycling. Packaging may only be placed on the Norwegian market if it complies with the Essential Requirements set out in the regulations. These include limits on volume/weight.</p>  |
| Objectives               | Purpose of the waste regulations: ... <i>reduce environmental problems caused by ... packaging, increase reuse and recycling, and reduce environmental problems associated with packaging waste.</i>  |
| Targets                  | EU Packaging Decree: 65% recycling rate by 2025 and 70% by 2030   |
| Outcomes                 | <p><a href="#">National recycling rate</a> 52.5% (2021)</p> <p>Plasretur 2022 recycling results for <a href="#">plastic packaging</a>:</p> <ul style="list-style-type: none"> <li>• 30.2% of all plastic packaging – household and commercial (except agricultural) – exceeding the target</li> <li>• 38.7% of business packaging</li> <li>• 80.5% of EPS – exceeding the target</li> </ul>   |
| Funding instrument       | <p>Grønt Punkt Norge (Green Dot Norway) invoice members after they report their packaging.</p> <p>Under the Waste Regulations producers that place on the market at least 1,000 kg per year of a specific type of packaging shall fund the collection, sorting, recycling and other treatment of used packaging and packaging waste</p>   |
| Financial incentives     | The <a href="#">packaging tax</a> on beverage containers reduces if more than 25% of containers are returned, and eliminated if 95% are recycled.   |
| Governance               | <p><a href="#">Green Dot Norway</a> is a NFP company. It is owned by the five 'return companies' responsible for collection, transport, and recycling: Sirkel Glass AS (glass), Norsk Metallgjenvinning AS (metal), Norsk Resy AS (corrugated cartons), Norsk Returkartong AS (cartons), Plasretur AS (plastics).</p> <p>Example of return company governance: Plastretur is owned equally by packaging manufacturers, product manufacturers and the trade.</p> <p>PSOs must report annually to the Environment Agency including data on packaging placed on market, the quantity collected and recycled, and recycling rates. Other reporting requirements are included in approval documents.</p> |
| Operations               | <p>Households: Municipalities are responsible for collection and enter into agreements with the return companies that take responsibility for recycling and reimburse municipalities for costs of collection.</p> <p>Commercial (example) - Plasretur have an agreement with around 100 collectors who are obliged to accept ready-sorted plastic packaging free of charge.</p>   |
| Marketing/communications | Under the <a href="#">Regulations</a> , PSOs '...shall provide consumers and businesses with adequate information on the handling of packaging waste and carry out at least one nationwide information campaign a year targeting consumers and businesses for each packaging type..'  |

| CHARACTERISTICS          | DETAIL  |
|--------------------------|---|
| Regulatory model         | Mandatory EPR was introduced in 1997 with the implementation of the <a href="#">Packaging Waste Regulations</a> . <a href="#">New regulations</a> are being phased in from 2024 including for reporting packaging data, payment of a levy and reimbursement to municipalities. Companies also have to pay a <a href="#">plastic packaging tax</a> if they have manufactured or imported plastic packaging components which contain less than 30% recycled plastic. A DRS for drink containers is expected to be introduced in 2025.   |
| National or state        | National (four jurisdictions)   |
| The problem              | Environmental impacts of packaging, packaging waste, costs of household packaging waste   |
| Packaging scope          | All packaging including packaging filled at point of sale   |
| Lifecycle stages         | Production (Design), Post-consumption (end-of-life)   |
| Objectives               | <a href="#">Proposed:</a><br>Environmental: Elimination of unnecessary packaging, increased reuse/refilling, design for recycling, increased recycling<br>Economic: producers paying full net costs of recycling, improved quality of recycled material/higher value recycling, additional reprocessing capacity in UK<br>Social: reduced litter, improved household knowledge of correct recycling   |
| Targets                  | <a href="#">Proposed targets for packaging recycling rates</a> : 68% (2024) and 76% (2030). Plastics: 51% and 62% respectively. The Government is considering the need for: <ul style="list-style-type: none"> <li>• additional sub-targets to drive material back into the same or similar applications (referred to as 'closed loop' targets)</li> <li>• targets or obligations to incentivise the use of refillable and reusable packaging systems.</li> </ul>   |
| Outcomes                 | National packaging recycling rate 63.2% ( <a href="#">2021</a> )  |
| Funding instrument       | The current legislation puts a Packaging Recovery Note (PRN) purchasing obligation on companies that handle >50 tonnes of packaging and turnover >£2m GBP per year. PRNs are issued by accredited processors and then sold to producers to demonstrate that a tonne of packaging material has been recycled on their behalf.<br>The new EPR regulations will move the full cost of dealing with packaging waste from households away from local taxpayers and councils to the packaging producers. EPR levies ('producer fees') will be introduced from 2025 in addition to PRNs.   |
| Financial incentives     | Eco-modulation of fees based on recyclability will begin in 2026. The fees producers will pay in 2024 will be calculated by apportioning the disposal costs to each material type.  |
| Governance               | There are currently many PROs (called scheme administrators or SAs) for packaging, with <a href="#">Valpak</a> being the largest. The <a href="#">draft regulations</a> which outline producer and scheme administrator obligations will be fully operational in 2024. There are already <a href="#">new data reporting</a> regulations for producers and PSOs. PSOs must report annually to the government.  |
| Operations               | Payments will be made to local authorities and councils (LAs) for collection of household packaging waste, and on-the-go packaging disposed of in street bins. Payments will be based on 'necessary costs'. The SA will be required to distribute payments to LAs for the full net disposal costs of providing efficient and effective systems for managing household packaging waste and to demonstrate how these costs reflect local circumstances and policy outcomes in each devolved administration of the UK.<br>There will be a mandatory takeback scheme for the collection and recycling of fibre-based composite cups (disposable coffee cups).<br>In England and Northern Ireland, there will be no payments for packaging waste that is littered; Scotland and Wales are considering steps to obligate producers for these costs. |
| Marketing/communications | The draft <a href="#">Regulations</a> include mandatory labelling for recycling or disposal.  |

## United States

### California (Plastic Pollution Prevention and Packaging Producer Responsibility Act)

| CHARACTERISTICS          | DETAIL   |
|--------------------------|--|
| Regulatory model         | <p><a href="#">Plastic Pollution Prevention and Packaging Producer Responsibility Act</a></p> <p>The scheme is in development:</p> <ul style="list-style-type: none"> <li>Producers required to join PRO by 1 January 2024</li> <li>As of 1 January 2027, producers must be identified in a Department of Resources Recycling and Recovery (CalRecycle) approved PRO plan for source reduction, collection, processing, and recycling of plastic packaging materials.</li> </ul>   |
| National or state        | State  |
| The problem              | <p>Identified by <a href="#">CalRecycle</a> (the regulator) as:</p> <ul style="list-style-type: none"> <li>Plastic waste and pollution</li> <li>Impacts on public health and the environment at every stage of the lifecycle.</li> </ul>   |
| Packaging scope          | <p>Plastic packaging collected through residential collection services.</p> <p>Appears to cover most plastic excluding those already in other schemes (e.g. beverage containers, agricultural) and some excluded sectors (e.g. medical), but also excluded is material that has a demonstrated recycling rate of 65% for 3 consecutive years prior to 1 January 2027.</p>  |
| Lifecycle stages         | Production (Design), Post-consumption (end-of-life)  |
| Objectives               | <ul style="list-style-type: none"> <li>Environment: Encourage source reduction, encourage post-consumer recycled content</li> <li>Social: Expand access to drop-off recycling or other services where curbside is currently not feasible</li> <li>Economic: Shift recycling costs from consumers and local governments to plastic producers</li> </ul>   |
| Targets                  | <p>Producer responsibility plans will require 30%, 40%, and 65% recycling rates after 2028, 2030, and 2032 respectively.</p> <p>A company is deemed to comply individually (not through a PSO) if it meets these criteria:</p> <ul style="list-style-type: none"> <li>5% source reduction (2013-2022) through refill, reuse or elimination</li> <li>8% source reduction through optimisation, concentration, right-sizing, bulking, shifting to non-plastic packaging, light-weighting, or increasing the number of consumer uses</li> <li>75% of the packaging materials the producer sold, offered for sale, distributed, or imported meets a 30% recycling rate.</li> </ul> |
| Outcomes                 | <p>The scheme is not yet implemented.</p> <p>Current recycling rate for '<a href="#">common containers and packaging materials</a>' (e.g. excluding flexible plastic packaging) is 54% and for rigid plastic containers 30%.</p> <p>US average for all packaging is 54% and for plastic packaging 14% (<a href="#">2018</a>)</p>   |
| Funding instrument       | Producers are required to join a PSO by 1 January 2024. The PSO must develop a publicly accessible producer responsibility plan. Producers will be responsible for following the PSO plan and paying an annual PSO fee. Expected to be based on relative market share (%), accounting for both number of plastic components and weight.  |
| Financial incentives     | Unclear at this stage.   |
| Governance               | <p>A single PSO will be appointed by the government. CalRecycle will oversee the program, appoint an Advisory Board, review the PSO's plan and budget, collect and publish recycling rates.</p> <p>The PSO must provide an annual report to CalRecycle and on their website on implementation of its approved plan. They must also report annually on plastic packaging placed on market and quantity recycled by material type,</p>   |
| Operations               | Aim to expand access to drop-off recycling or other services where curbside currently not feasible. Appears to mainly cover residential and public places.   |
| Marketing/communications | The PSO's plan must include '... efforts to use education and promotion to encourage proper participation in recycling and composting collection and reuse and refill systems'. The annual report must include a description of outreach efforts and education to consumers.   |

## Colorado (Circular Action Alliance)

| CHARACTERISTICS          | DETAIL  |
|--------------------------|---|
| Regulatory model         | Underpinned by <a href="#">House Bill 22-1355</a> , (Producer Responsibility Program For Recycling), signed into law in 2022.   |
| National or state        | State   |
| The problem              | Bill places obligation on parties to “design and manage covered materials to prevent or minimise their negative environmental, social, economic, and health impacts”.   |
| Packaging scope          | Consumer-facing packaging excludes beverage containers covered by a returnable deposit and packaging used exclusively in manufacturing and industrial facilities.   |
| Lifecycle stages         | Production (recycled content), Post-consumption (end-of-life)   |
| Objectives               | Environment: Reduce plastic waste, improve recycling rate, better collect, process and market recyclable materials<br>Economic: provide producers access to purchased recycled materials so they can be remade into new products, shift costs from consumers to producers<br>Social: provide free and equitable recycling access for all Coloradoans  |
| Targets                  | Minimum rates for collection, recycling and post-consumer recycled content for each material to be included in the plan submitted by the PSO to government.   |
| Outcomes                 | Not yet implemented. Current recycling rate for ‘ <a href="#">common containers and packaging materials</a> ’ (e.g. excluding flexible plastic packaging) is 33% and for rigid plastic containers 9%. US average for all packaging is 54% and for plastic packaging 14% ( <a href="#">2018</a> )  |
| Funding instrument       | Requires all covered sellers of consumer-facing packaging, with some exceptions, to be members of a PSO and to pay ‘producer responsibility dues’.  |
| Financial incentives     | Principles for establishing dues include eco-modulation. They should: <ul style="list-style-type: none"> <li>• Vary by type of material and whether or not the material is readily recyclable</li> <li>• Be based on the net recycling services costs</li> <li>• Incentivise: <ul style="list-style-type: none"> <li>– Reduced material use</li> <li>– Enhanced recyclability and commodity value</li> <li>– High levels of PCR material use</li> <li>– Designs for the reuse and refill of covered materials</li> <li>– High recycling and refill rates.</li> </ul> </li> <li>• Discourage practices that increase recycling or reuse costs, practices that disrupt recycling of other materials, using materials that are not on the minimum recyclable list</li> </ul>   |
| Governance               | A PSO ( <a href="#">Circular Action Alliance</a> ) has been appointed by the government. Circular Action Alliance is a NFP entity.<br><br>The bill establishes an Advisory Board within the <a href="#">Department of Public Health and Environment</a> , with 13 voting members (three x Local Government, Materials Recovery Facility, hauler, environment/community organisation, packaging material supplier, manufacturer, trade organisation, retailer, composter, member with experience in environmental justice/underserved communities, landfill) and two non-voting members (representing Department and PSO) appointed by the Executive Director.<br><br>PSO plans and proposals must be submitted to the Advisory Board for assessment. They are required to submit annual reports to the advisory board describing the progress of the program. |
| Operations               | The appointed PSO (Circular Action Alliance) will: <ul style="list-style-type: none"> <li>• By 30 January 2024, complete a statewide needs assessment to evaluate the recycling infrastructure throughout all geographic areas of the state</li> <li>• Develop a program plan to detail how it will implement the recycling program and establish targets for minimum recycling rates by 2030 and 2035. The initial focus is residential services, but the plan must describe a process and timeline to include non-residential entities by 2028.</li> </ul>  |
| Marketing/communications | Under the Act the PSO is required to ‘...develop and implement a statewide education and outreach program on the recycling and reuse of covered materials’  |

## Oregon (Plastic Pollution and Recycling and Modernization Act)

| CHARACTERISTICS          | DETAIL   |
|--------------------------|--|
| Regulatory model         | Underpinned by the <a href="#">Plastic Pollution and Recycling and Modernization Act</a> – ORS Chapter 459A and Senate Bill 582B   |
| National or state        | State  |
| The problem              | Non-recyclable packaging   |
| Packaging scope          | Consumer-facing packaging including packaging sold through retail, online, and food serviceware. Excludes packaging covered by the Bottle Bill.<br>A state-wide collection list will establish which materials will be collected at curbside and at depots.  |
| Lifecycle stages         | Post Consumption (Primarily end of life), But the largest 25 producers are also required to perform and disclose <a href="#">evaluations of the lifecycle impacts</a> of at least one percent of their covered products sold or distributed into the state every two years   |
| Objectives               | Environment: Optimise benefits of recycling, considering lifecycle impacts and costs, keep plastic and other trash out of our waterways and communities – both domestically and overseas.<br>Social: Meet needs of unserved and underserved communities<br>Economic: Protect rate payers (producer funded), improve efficiencies of recycling operations by creating one statewide list of what can be recycled.   |
| Targets                  | Recycling goals for plastic packaging and food serviceware: 25% by 2028, 50% by 2040, and 70% by 2050.   |
| Outcomes                 | Yet to be implemented. Timeline includes: <ul style="list-style-type: none"> <li>• Rulemaking in 2023-24</li> <li>• PSO program plans due in 2024</li> <li>• Producers join PSO by 1 July 2025.</li> </ul> Current recycling rate for <a href="#">‘common containers and packaging materials’</a> (e.g. excluding flexible plastic packaging) is 66% and rigid plastics 26%.<br>US average for all packaging is 54% and for plastic packaging 14% (2018).  |
| Funding instrument       | Levy on producers based on which materials they use, with exemption for small producers (less than \$5m revenue): <ul style="list-style-type: none"> <li>• First seller of food serviceware</li> <li>• Manufacturer of packaged items sold via physical retail sale</li> <li>• Packager and shipper for packaging or packaged items sold via remote sale</li> </ul>  |
| Financial incentives     | PRO membership fees will be eco-modulated.<br>PROs will be required to establish a graduated fee structure that is charged to members, using several mandatory criteria, including recyclability and use of post-consumer recycled content. All other things being equal, producers that use post-consumer content in their covered products will pay lower membership fees.   |
| Governance               | The PSOs will be NFP. The Department of Environmental Quality (DEQ) will provide <a href="#">oversight and enforcement</a> where necessary. A new Governor-appointed advisory council will provide feedback to DEQ and PSOs about important elements of the new system.<br>The Act establishes reporting requirements of PSOs, including requirements for annual reports and special quarterly reports regarding material disposition.                     |
| Operations               | Most collection will continue to be overseen by local governments, but PSOs will pay up-front costs of improving and expanding collection services. PSOs will provide services for certain hard-to-recycle materials. PSOs will also fund waste prevention grants, research to recommend improvements including for litter and marine debris.<br>PSOs must develop and implement a producer responsibility plan, which must be approved by the department. |
| Marketing/communications | The Act requires PSOs to develop and make available to local governments educational resources to promote the uniform statewide recycling list. It also requires PSOs to coordinate and fund statewide promotional campaigns following revisions to the uniform statewide collection list.   |

## Canada

### Alberta (Extended Producer Responsibility Regulation)

| CHARACTERISTICS          | DETAIL   |
|--------------------------|--|
| Regulatory model         | Alberta's <a href="#">EPR Regulation</a> came into effect on 30 November 2022. Most producers will be required to provide verification of collection and management plans to the <a href="#">Alberta Recycling Management Authority</a> (ARMA) by 1 April 2024. Phase 1 of the EPR system will be operational by 1 April 2025. Regulation provides significant flexibility for producers to meet the regulations individually or through a PSO.  |
| National or state        | State (Province)   |
| The problem              | Implied problems: Product and packaging waste, cost of recycling to local government and ratepayers, recycling services not accessible to all residents  |
| Packaging scope          | Packaging and paper products (PPP). Residential products only - excludes PPP from the industrial, commercial and institutional sectors. Excludes beverage containers, which are covered by a deposit scheme.   |
| Lifecycle stages         | Post-consumption (end-of-life)   |
| Objectives               | <ul style="list-style-type: none"> <li>• Environment: encourage better product design by producers, increase recycling</li> <li>• Social: make recycling easier, clarify what can be recycled, make recycling more accessible to communities that don't currently have it</li> <li>• Economic: A single EPR system collecting a consistent list of products will save municipal taxpayers money; diversify Alberta's economy by encouraging companies to find innovative ways to recycle more materials and produce less packaging waste</li> </ul>  |
| Targets                  | Regulation specifies minimum "material management requirements", which is the percentage of each material that a producer must recycle e.g.: <ul style="list-style-type: none"> <li>• Flexible plastics 25% (2027), 47.5% (2033)</li> <li>• Rigids plastics 50% (2027), 65% (2033).</li> </ul>   |
| Outcomes                 | Not yet implemented. Current recycling rate not found.   |
| Funding instrument       | ARMA is to <a href="#">ensure that</a> 'fees are established, assessed, charged or collected based on the recovery of direct and indirect costs, charges and expenses.'<br>Regulations contain a hierarchical definition of who is the producer being: <ul style="list-style-type: none"> <li>• Brand holder in the first instance</li> <li>• Importer</li> <li>• Retailer.</li> </ul>   |
| Financial incentives     | PSOs are yet to be established. Fees will be determined through contracts between PSOs and producers.  |
| Governance               | ARMA is a 'society' established under the regulation as the designated organisation to provide oversight of Alberta's two new EPR systems: for packaging and paper products (PPP) and for hazardous and special products (HSP). ARMA will enact bylaws to charge fees, register producers and PSOs, collect data, audit reports and levy penalties for non-compliance. Roles and responsibilities are outlined in an <a href="#">agreement</a> between the government and ARMA.<br>ARMA is required to establish one or more Advisory Councils, representing the interests of obligated and impacted stakeholders.<br>While <a href="#">producers are individually responsible</a> for their regulatory obligations, they may choose to join one or more PSOs to act on their behalf. PSOs must be NFP and unaffiliated with recycling services or waste management services to register with the ARMA. More than one PSO can operate in Alberta for any designated material. Producers will be required to provide verification of collection and management plans to the ARMA by 1 April 2024<br>PSOs and producers will need to annually report on performance. |
| Operations               | ARMA is required to develop common collection standards for PPP.<br>PSOs will be responsible for signing-up individual producers, developing and entering material collection contracts, and providing performance reporting to the ARMA.  |
| Marketing/communications | ARMA can make by-laws on requirements for a producer to promote, and educate consumers about, matters covered by the Regulation.<br>The verification submission must include education and promotion plans,  |

## British Columbia (Recycle BC)

| CHARACTERISTICS          | DETAIL  |
|--------------------------|---|
| Regulatory model         | The <a href="#">Recycling Regulation</a> under the Environmental Management Act outlines requirements for EPR. Under the Regulation producers must assume financial and operational responsibility for collection and proper management of the products they sell or distribute to residents in BC.   |
| National or state        | State (Province)  |
| The problem              | Environmental impacts of packaging and paper although the primary focus is on residential waste.  |
| Packaging scope          | Recycle BC manages the EPR program for PPP. Designated materials are generally those supplied to residents and taken home for recycling or disposal.  |
| Lifecycle stages         | Post-consumption (end-of-life)  |
| Objectives               | The <a href="#">Program Plan</a> aims to achieve 'Continuous improvement in recovery effectiveness and efficiency of residential waste packaging and paper product in British Columbia'   |
| Targets                  | The Recycling Regulation sets a recovery rate target of 75%. Recycle BC has established material specific targets (see below).  |
| Outcomes                 | Recycle BC achieved a recovery rate of 86.2% in <a href="#">2022</a> . Material recovery rates ( <a href="#">2021</a> ) were: <ul style="list-style-type: none"> <li>• Plastics 55% (target 58% 2025)</li> <li>• Rigid plastics 67% (target 73% by 2023)</li> <li>• Flexible plastics 28% (target 27% by 2023)</li> <li>• Metal 83% (target 81% by 2022)</li> <li>• Glass 116% (target 98% by 2022).</li> </ul>   |
| Funding instrument       | Producers pay a fee to Recycle BC based on packaging weight and recyclability. There is a <a href="#">four-step methodology</a> to determine fees.  |
| Financial incentives     | <a href="#">Fees</a> provide an incentive for design for recycling. Rates are calculated each year to cover the costs associated with collection, transport and processing of each material.  |
| Governance               | <a href="#">Recycle BC</a> has been the only PSO for paper and packaging in BC since 2014. Recycle BC is a NFP. Their <a href="#">Program Plan</a> is updated every five years and must be approved by the government.<br><br>The Recycle BC Board of Directors includes representatives of industry stewards (brand owners and retailers) and independent members. An Advisory Committee comprises stakeholders including local governments, steward industry associations and the Recycling Council of BC.<br><br>Annual reporting obligations are outlined in the <a href="#">Recycling Regulation</a> . |
| Operations               | Recycle BC manages a province-wide reverse supply chain for PPP in BC. They offer financial incentives to collectors including municipalities participating in the program. These incentives are designed to provide collectors with sufficient incentive to collect the amount of PPP required by Recycle BC to meet its targets. Recycle BC pays other service providers for transport, processing etc. Circular Materials (previously the Canadian Stewardship Services Alliance [CSSA]) provides administrative support and is working to develop an integrated approach across Canada.                 |
| Marketing/communications | EPR plans submitted by producers must demonstrate how they will make consumers aware of the EPR program, the location of collection facilities or the availability of collection services, and how to manage products in a safe manner, The Program Plan includes a consumer awareness targets and several metrics. A consumer-facing <a href="#">website</a> provides information on recycling and other resources.  |



## Australia

### National Environment Protection (Used Packaging) Measure (NEPM) and Australian Packaging Covenant

| CHARACTERISTICS          | DETAIL  |
|--------------------------|---|
| Regulatory model         | The <a href="#">Australian Packaging Covenant</a> (APCO) is an industry-led scheme implemented by the APCO. It is underpinned by the <a href="#">NEPM</a> (implemented through state and territory regulation). The NEPM <a href="#">was reviewed in 2021</a> and as a result a new packaging regulatory framework is <a href="#">planned for 2025</a> .  |
| National or state        | National  |
| The problem              | Environmental impacts of packaging in the supply chain, 'fugitive packaging' in the environment, packaging waste  |
| Packaging scope          | <ul style="list-style-type: none"> <li>• NEPM scope: packaging of 'retail' products and distribution packaging</li> <li>• APCO scope: all packaging</li> </ul>  |
| Lifecycle stages         | Production (design), Consumption (use)  |
| Objectives               | NEPM goal: ... 'to reduce environmental degradation arising from the disposal of used packaging and conserve virgin materials through the encouragement of waste avoidance and the re-use and recycling of used packaging materials ....'<br>APC goals: 'Optimising resource recovery of consumer packaging through the supply chain...' and 'Preventing the impacts of fugitive packaging on the environment ...'  |
| Targets                  | There are no targets in the NEPM or APC documents.<br>APCO <a href="#">national packaging targets</a> (NPTs) for 2025 (established 2018): <ul style="list-style-type: none"> <li>• Target 1: 100% of packaging to be reusable, recyclable or compostable by 2025</li> <li>• Target 2: 70% of plastic packaging recycled or composted</li> <li>• Target 3: 50% average recycled content across all packaging</li> <li>• Target 4: Phase out problematic and unnecessary single-use plastic packaging.</li> </ul>   |
| Outcomes                 | <a href="#">2020-21 data</a> : <ul style="list-style-type: none"> <li>• Target 1: 86% 'good recyclability', 5% 'not recyclable', 6% 'poor [limited]', 2% 'unknown'</li> <li>• Target 2: 18% recycling rate for all plastics (26% for rigid, 7% for flexible)</li> <li>• Target 3: 39% recycled content across all packaging</li> <li>• Target 4: 28% reduction in priority single-use plastic packaging items.</li> </ul>   |
| Funding instrument       | A membership fee based on company size applies to brand owner businesses involved in the packaging supply chain and industry associations.  |
| Financial incentives     | Under the NEPM framework, producers that are not members of APCO are required to 'undertake or assure the systematic recovery of consumer packaging'. Producers that are not in APCO and not addressing the goals of the NEPM in other ways are theoretically non-compliant and therefore, theoretically subject to penalties. However, Government has not indicated or enforced the consequences of non-compliance to date.  |
| Governance               | APCO is a NFP company limited by guarantee. The work is overseen by a board, with an independent chair; and independent, brand owner and industry association representatives. It reports to the Government Officials Group which is made up of representatives from each jurisdiction. APCO's five-year strategic plans must be approved by environment Ministers.<br><br>The board is advised by the Collective Action Group with representatives from federal, state, and local government, the recycling sector and community representatives.<br><br>Members submit annual reports to APCO based on a Sustainable Packaging Framework including progress towards the targets and other KPIs. APCO publishes annual reports on activities and detailed annual reports on packaging flows including progress towards NPTs. |
| Operations               | APCO is not directly involved in recycling. Members are required to submit annual action plans and reports on progress towards the NPTs and Sustainable Packaging Guidelines. APCO manages the Australasian Recycling Label (ARL).  |
| Marketing/communications | APCO developed the on-pack Australasian Recycling Label (ARL) to advise consumers on recyclability, in a partnership with Planet Ark. <a href="#">Resources</a> are provided on their website. A <a href="#">National Consumer Education Campaign</a> was jointly funded by APCO and the Federal Government.  |

| CHARACTERISTICS          | DETAIL   |
|--------------------------|--|
| Regulatory model         | The CDS is regulated by the NSW Government through the <a href="#">Waste Avoidance and Resource Recovery Amendment (Container Deposit Scheme) Act 2016 No 57 (The Act)</a> . The scheme is called Return and Earn.   |
| National or state        | State (NSW)  |
| The problem              | Beverage container waste and litter  |
| Packaging scope          | Beverage containers with some exclusions, including unflavoured milk and wine in glass bottles. Excludes containers < 150mL and health tonics approved by TGA  |
| Lifecycle stages         | Consumption and Post-consumption (end-of-life)   |
| Objectives               | Objectives in the Act: <ul style="list-style-type: none"> <li>Recognise the responsibility that the beverage industry shares with the community for reducing and dealing with waste generated by beverage product packaging.</li> <li>Establish a cost-effective statewide CDS to assist the beverage industry to discharge that responsibility and to promote the recovery, reuse and recycling of empty beverage containers.</li> </ul>  |
| Targets                  | NSW Government targets in the Waste and Sustainable Materials Strategy 2041 and the NSW Plastics Action Plan: <ul style="list-style-type: none"> <li>30% reduction in plastic litter by 2025</li> <li>60% reduction in all litter by 2030</li> </ul>   |
| Outcomes                 | According to APCO (2023, p. 148) the recovery rate for CD-eligible containers in 2020-21 was 81%.<br><a href="#">Return and Earn outcomes 2020-21</a> <ul style="list-style-type: none"> <li>2.3 billion containers collected through the scheme</li> <li>65% average redemption rate</li> <li>9% reduction in drink container litter compared to the previous year.</li> </ul>  |
| Funding instrument       | Consumers pay the deposit on the container and may choose to redeem it. Beverage suppliers are charged fees for the services provided by the Scheme Coordinator, i.e., deposits redeemed, collection, sorting, logistics, marketing, and administration-   |
| Financial incentives     | The 10-cent deposit provides consumers with an incentive to return containers to collection points.  |
| Governance               | The Act provides for the establishment of a Scheme Coordinator and Network Operator(s) with responsibility for the administration of the scheme. The Scheme Coordinator and Network Operator have separate contracts with the state to deliver CDS services. <a href="#">Exchange for Change (EfC)</a> is the scheme coordinator and manages the financial operations, marketing, and community education for the schemes, and ensures the integrity of the scheme through audit and risk management. Tomra Cleanaway is the only network operator. Both were appointed through an open tender process.<br>EfC provides data on performance through statutory <a href="#">Annual Reports</a> . |
| Operations               | Consumers can return containers to >600 drop-off points to redeem the deposit or donate their refund it to a charity of their choice. Community organisations also collect and redeem containers from the public to raise funds. Material Recovery Facilities (MRFs) redeem the value of deposits on containers from kerbside collections based on 'eligibility factors' outlined in a <a href="#">Protocol</a> .<br>The Act requires one return point for every 12,618 NSW residents (on average). There are requirements in regulation around the number of return points for metro, regional and remote areas as well as opening hours.   |
| Marketing/communications | Beverage container labels must display the correct refund marking.<br>NSW's education campaign is focused on reaching markets that offer potential for further growth including culturally and linguistically diverse groups, and young environmentalists. The Return and Earn <a href="#">website</a> includes an impact calculator allowing people to estimate the environmental benefits of their recycling.  |

| CHARACTERISTICS           | DETAIL  |
|---------------------------|---|
| Regulatory model          | The CDS is regulated by the SA Government through Part 8 Division 2 of the <a href="#">Environment Protection Act 1993</a> (scheme established 1977).   |
| National or state         | State (SA)  |
| The problem               | Beverage container waste and litter   |
| Packaging scope           | Beverage containers with some exclusions, including unflavoured milk and wine and spirits in glass bottles. Unlike most jurisdictions there is no minimum volume.   |
| Lifecycle stages          | Consumption and Post-consumption (end-of-life)  |
| Objectives                | Original objective was to reduce beverage container litter. A review of the scheme (2021), proposed to update its objectives to clarify the current purpose, which is 'litter control; resource recovery and product stewardship; and strengthen the promotion of the circulation of materials through resource recovery and support a strong market for recovered resources within a circular economy' <sup>18</sup> . At time of publication the final scheme design had not been released.   |
| Targets                   | None found.   |
| Outcomes                  | According to APCO (2023, p. 148) SA was the jurisdiction with the highest total recovery rate for CD-eligible containers in 2020-21 at 90%. <a href="#">Return rate</a> of 76% in 2022-23. Beverage containers make up only 2.8% of litter – attributed by the SA Government to the scheme.   |
| Funding instrument        | Consumers pay the deposit on the container and may choose to redeem it. Beverage suppliers are charged fees for the services provided by the Scheme Coordinator, i.e., deposits redeemed, collection, sorting, logistics, marketing, and administration-  |
| Financial incentives      | The 10-cent deposit provides consumers with an incentive to return containers to collection points.   |
| Governance                | There are four important roles, which are sometimes split between different organisations and sometimes combined: the regulator, scheme coordinator, network operator and collection point operator. There are three Scheme Coordinators (known as super collectors): Statewide (owned by Coca Cola Amatil) and Marine Stores (owned by Coopers and Lion) and Flagcan Distributors.<br><br>The review of the CDS (EPA SA, 2021) recommended changes governance to improve coordination and transparency. Two alternative options were proposed: an independent governing body appointed by the Minister to oversee multiple super collectors, or an independent NFP scheme administrator. |
| Operations                | There are no formal or legislated guidelines for community access, however the review (2021) recommended an increase in number and diversity of return and collection points will yield potential significant increase in collected volumes as well as employment opportunities.  |
| Marketing/ communications | Beverage container labels must display the correct refund marking.<br>The EPA promotes the scheme on its <a href="#">website</a> .  |

<sup>18</sup> EPA SA (2021), p. 22

| CHARACTERISTICS          | DETAIL  |
|--------------------------|---|
| Regulatory model         | The CDS – called Containers for Change – is regulated by the Queensland Government through the <a href="#">Waste Reduction and Recycling Act 2011</a> .   |
| National or state        | State (QLD)   |
| The problem              | Beverage container waste and litter   |
| Packaging scope          | Beverage containers with some exclusions, including unflavoured milk and containers <150mL. Wine-based in aluminium – excludes < 150mL and >1L. Wine and spirit bottles between 150mL - 3L were added to the scheme from 1 November 2023 (the first Australian jurisdiction to do so).  |
| Lifecycle stages         | Consumption and Post-consumption (end-of-life)  |
| Objectives               | Government <a href="#">objectives</a> : <ul style="list-style-type: none"> <li>• Reduce the amount of drink containers that are littered.</li> <li>• Increase the recycling rate.</li> </ul>  |
| Targets                  | COEX targets: <ul style="list-style-type: none"> <li>• 85% of eligible containers returned</li> <li>• + 307 container refund points</li> <li>• 95% beverage industry participation</li> <li>• 80% Scheme public awareness.</li> </ul>   |
| Outcomes                 | According to APCO (2023, p. 148) the total recovery rate for CD-eligible containers in 2020-21 was 78%.<br>COEX reported outcomes 2022-23 (COEX, 2023): <ul style="list-style-type: none"> <li>• 63.5% collection rate</li> <li>• 362 container refund points</li> <li>• 95% beverage industry participation</li> <li>• 84% Scheme public awareness.</li> </ul>   |
| Funding instrument       | Consumers pay the deposit on the container and may choose to redeem it. Beverage suppliers are charged fees for the services provided by the scheme coordinator, i.e., deposits redeemed, collection, sorting, logistics, marketing, and administration.  |
| Financial incentives     | The 10-cent deposit provides consumers with an incentive to return containers to collection points.   |
| Governance               | The scheme coordinator is <a href="#">Container Exchange</a> (COEX) and appointed by government without a market process.<br><br>The board includes an independent chair, two directors from Lion Pty Ltd, two directors from Coca-Cola Europacific Partners Australia, one director representing small beverage manufacturers, three independent directors expert in finance, legal and community.<br><br>COEX publishes annual reports including progress against targets and the SDGs. |
| Operations               | The Act states that one of the PRO’s functions is to “establish a network of container refund points to, as far as practicable, provide communities in Queensland with access to a place for the return of empty beverage containers for the payment of refund amounts”.  |
| Marketing/communications | Beverage container labels must display the correct refund marking and a barcode on containers eligible for a refund under the scheme.<br><br>COEX runs a consumer-facing <a href="#">website</a> and a ‘change makers’ campaign.  |

| CHARACTERISTICS          | DETAIL   |
|--------------------------|--|
| Regulatory model         | The CDS is regulated by the ACT Government through the <a href="#">Waste Management and Resource Recovery Act 2016</a> .   |
| National or state        | Territory (ACT)  |
| The problem              | Beverage container waste and litter  |
| Packaging scope          | Beverage containers with some exclusions, including unflavoured milk and wine and spirits in glass bottles. The Government is considering <a href="#">expanding scope</a> to include wine and spirits, all flavoured milk, cordial etc.  |
| Lifecycle stages         | Consumption and Post-consumption (end-of-life)   |
| Objectives               | <ul style="list-style-type: none"> <li>• Encourage recycling in the community.</li> <li>• Reduce litter and the number of containers going to landfill.<sup>19</sup></li> </ul>  |
| Targets                  | No published targets found.  |
| Outcomes                 | According to APCO (2023, p. 148) the recovery rate for CD-eligible containers in 2020-21 was 64%.  |
| Funding instrument       | Consumers pay the deposit on the container and may choose to redeem it. Beverage suppliers are charged fees for the services provided by the scheme coordinator, i.e., deposits redeemed, collection, sorting, logistics, marketing, and administration.   |
| Financial incentives     | The 10-cent deposit provides consumers with an incentive to return containers to collection points.  |
| Governance               | The scheme coordinator, <a href="#">Exchange for Change (EfC)</a> and network operator, Return-It (recycler owned by Re.Group) appointed by competitive open market process. EfC provides data on performance through statutory <a href="#">Annual Reports</a> .   |
| Operations               | Consumers can return containers to drop-off points to redeem the deposit or donate their refund it to a charity of their choice. Community organisations also collect and redeem containers from the public to raise funds. MRFs redeem the value of deposits on containers from kerbside collections based on 'eligibility factors' outlined in a <a href="#">Protocol</a> .  |
| Marketing/communications | Beverage container labels must display the correct refund marking.<br>The ACT Government has a consumer-facing <a href="#">website</a> which includes an <a href="#">impact calculator</a> allowing people to estimate the environmental benefits of their recycling. They provide educational resources tied to sustainability and recycling for children in Early Learning classes through to Year 6. They have a program for children called Recycling Hero Passport. |

<sup>19</sup> Exchange for Change (2020), ACT container deposit scheme: Statutory annual report 2019-20, <https://www.exchangeforchange.com.au/who-we-are/publications-and-reports.html>

| CHARACTERISTICS          | DETAIL  |
|--------------------------|---|
| Regulatory model         | The CDS is regulated by the NT Government through the <a href="#">Environment Protection (Beverage Containers and Plastic Bags) Act 2011</a> (Est. 2012)<br>In 2023 the government consulted on <a href="#">proposed changes</a> to the scheme.   |
| National or state        | State (NT)  |
| The problem              | Beverage container waste and litter   |
| Packaging scope          | Beverage containers with some exclusions, including unflavoured milk and wine and spirits in glass bottles. Unlike most jurisdictions there is no minimum volume. The government has <a href="#">proposed</a> extending scope to include unflavoured milk (& milk substitutes), wine and spirit bottles and other ready to drink beverages currently excluded.  |
| Lifecycle stages         | Consumption and Post-consumption (end-of-life)  |
| Objectives               | <ul style="list-style-type: none"> <li>Reduce beverage container waste by providing communities throughout the whole of the Territory, as far as practicable, with access to facilities for the collection of empty containers and the payment of refund amounts</li> <li>Increase resource recovery, reuse and recycling.<sup>20</sup></li> </ul>  |
| Targets                  | None found. Under the Act 'the Minister or NT EPA may establish targets for reuse, recycling or other disposal of permitted containers'.  |
| Outcomes                 | According to APCO (2023, p. 148) the total recovery rate for CD-eligible containers in 2020-21 was 86%.<br>The redemption rate was 78% in <a href="#">2022-23</a> .   |
| Funding instrument       | Consumers pay the deposit on the container and may choose to redeem it. Beverage suppliers are charged fees for the services provided by the scheme coordinator, i.e., collection, sorting, logistics, marketing, and administration.   |
| Financial incentives     | The 10-cent deposit provides consumers with an incentive to return containers to collection points. <a href="#">Alice Springs Council</a> has partnered with the NT Government to increase the refund on glass wine and spirit bottles to 15 cents.   |
| Governance               | There are four scheme coordinators: Can-Recycling (SA) Pty Ltd (owned by Coca Cola Amatil), trading as <a href="#">Statewide</a> , Marine Stores (owned by Coopers and Lion), <a href="#">Envirobank</a> (recycler) and NT Coordinators (recycler).<br>The NT EPA is required to publish <a href="#">annual reports</a> on administration of the Act.   |
| Operations               | Consumers can return containers to 19 collection depots to redeem the deposit. Community organisations can collect and redeem containers from the public to raise funds.<br>Envirobank manages five depots and provides a pick-up service.<br>There are no formal or legislated guidelines for access, however the review (2019) recommended an increase in number and diversity of return and collection points will yield potential significant increase in collected volumes as well as employment opportunities |
| Marketing/communications | Beverage container labels must display the correct refund marking.<br>Envirobank has a consumer-facing <a href="#">website</a> .  |

<sup>20</sup> DENR (2018), Evaluation and operation of the Northern Territory container deposit scheme, [https://ntepa.nt.gov.au/\\_data/assets/pdf\\_file/0011/590798/cds\\_review\\_report\\_ernst\\_young.pdf](https://ntepa.nt.gov.au/_data/assets/pdf_file/0011/590798/cds_review_report_ernst_young.pdf)

| CHARACTERISTICS          | DETAIL  |
|--------------------------|---|
| Regulatory model         | The CDS is regulated by the VIC Government (Recycle Victoria) through the Circular Economy (Waste Reduction and Recycling) Act 2021 and <a href="#">Circular Economy (Waste Reduction and Recycling) (Container Deposit Scheme) Regulations 2022</a> . The scheme is known as CDS Vic.  |
| National or state        | State (Victoria)  |
| The problem              | Beverage container waste and litter   |
| Packaging scope          | Beverage containers between 150ml and 3L with some exclusions, including unflavoured milk and wine and spirits in glass bottles.  |
| Lifecycle stages         | Consumption and Post-consumption (end-of-life)  |
| Objectives               | <p>VICReturn objectives:</p> <ul style="list-style-type: none"> <li>• Increase recovery and recycling of empty beverage containers</li> <li>• Reduce the number of empty beverage containers disposed of as litter or landfill</li> <li>• Ensure that first suppliers of beverage products take product stewardship responsibility</li> <li>• Provide opportunities for social enterprise and benefits for community organisations</li> <li>• Create opportunities for employment</li> <li>• Complement existing collection and recycling activities for recyclable waste.</li> </ul>   |
| Targets                  | The Government’s target is 80% diversion of all waste from landfill by 2030. Within 12 months the network operators are required to have a minimum of one collection point per 14,500 people in metropolitan areas, at least one per town of 750 people in regional areas, and at least one per town of 350 people in remote areas.   |
| Outcomes                 | Commenced operations in November 2023.  |
| Funding instrument       | Consumers pay the deposit on the container and may choose to redeem it. Beverage suppliers are charged fees for the services provided by the scheme coordinator, i.e., deposits redeemed, collection, sorting, logistics, marketing, and administration.  |
| Financial incentives     | The 10-cent deposit provides consumers with an incentive to return containers to collection points.   |
| Governance               | <p>The scheme is closely <a href="#">regulated by Recycling Victoria</a>.</p> <p>The Act provides for the establishment of a Scheme Coordinator and Network Operator(s). Scheme Coordinator and Network Operator have separate contracts with the state to deliver CDS services. <a href="#">VICReturn</a> is the scheme coordinator and handles the financial operations, marketing and community education. The network operators TOMRA Cleanaway, VISY and Return-It, oversee the return points, refunds to customers and ensure proper recycling of the containers. Both were appointed via a competitive open market process.</p> <p>VICReturn Limited is a NFP entity that was formed by Lion Pty Ltd, Coca-Cola Europacific Partners and Asahi Beverages. Along with Board Members from the three companies, there is an independent chair and other independent directors to be appointed from the waste and recycling industry and from SME beverage manufacturers.</p> <p>The Act outlines reporting obligations of the scheme coordinator and network operators to the Minister.</p> |
| Operations               | Consumers can return containers to drop-off points to redeem the 10-cent deposit or donate their refund it to a charity of their choice. Community organisations also collect and redeem containers from the public to raise funds. MRF operators can receive processing refunds for CD-eligible containers collected through kerbside. Protocols are being finalised.  |
| Marketing/communications | <p>Recycle Victoria is responsible for developing branding and marketing guidelines for CDS Vic.</p> <p>Both <a href="#">VICReturn</a> and the <a href="#">Victorian Government</a> have consumer-facing websites.</p>  |

| CHARACTERISTICS          | DETAIL  |
|--------------------------|---|
| Regulatory model         | The CDS is regulated by the Tasmanian Government through the <a href="#">Container Refund Scheme Act 2022 and the Container Refund Scheme Regulations 2023 (still in draft)</a> . The scheme, called Recycle Rewards, is expected to begin operating in 2024.   |
| National or state        | State (Tasmania)  |
| The problem              | Beverage container waste and litter   |
| Packaging scope          | Proposed – Beverage containers 150ml-3L with some exemptions including reusable containers, unflavoured milks, flavoured milks >1L, concentrated juices and cordial, wine and spirit containers etc.  |
| Lifecycle stages         | Consumption and Post-consumption (end-of-life)  |
| Objectives               | Government <a href="#">objectives</a> : <ul style="list-style-type: none"> <li>• Reduce litter.</li> <li>• Increase recycling rates.</li> </ul>   |
| Targets                  | Agreements under the Act may include ‘performance targets or other targets or requirements.   |
| Outcomes                 | Not yet operational.  |
| Funding instrument       | Consumers pay the deposit on the container and may choose to redeem it. Beverage suppliers are charged fees for the services provided by the scheme coordinator, i.e., deposits redeemed, collection, sorting, logistics, marketing, and administration.  |
| Financial incentives     | The 10-cent deposit provides consumers with an incentive to return containers to collection points.   |
| Governance               | The Minister <a href="#">will appoint</a> a scheme coordinator and a network operator to run separate components of the scheme. Both will be appointed through a competitive tender process (EOIs issued in 2022).  |
| Operations               | Consumers will be able to receive a 10-cent refund for every empty drink container they return to a designated Refund Point for recycling. There will also be the option of donating the refund to eligible charitable organisations, or donating recyclable containers to a community group who can redeem it. MRF operators can enter into an agreement with the scheme coordinator to redeem containers. |
| Marketing/communications | Beverage container labels must display the correct refund marking.  |



| CHARACTERISTICS          | DETAIL  |
|--------------------------|---|
| Regulatory model         | The CDS is regulated by the Western Australian Government through the <a href="#">Waste Avoidance and Resource Recovery Act 2007</a> and the <a href="#">Waste Avoidance and Resource Recovery (Container Deposit Scheme) Regulations 2019</a> . The scheme commenced operations in 2020.   |
| National or state        | State (WA)  |
| The problem              | Beverage container waste and litter   |
| Packaging scope          | Beverage containers with some exclusions, including containers < 150ml, unflavoured milk and wine and spirits in glass bottles. In 2022-23 the government <a href="#">consulted</a> on extending the scope to include all beverage containers between 150 ml-3L other than plain milk and registered health tonics.   |
| Lifecycle stages         | Consumption and Post-consumption (end-of-life)  |
| Objectives               | Scheme <a href="#">objectives</a> : <ul style="list-style-type: none"> <li>• Increase recovery and recycling of empty beverage containers</li> <li>• Reduce the number of empty beverage containers that are disposed of as litter or to landfill</li> <li>• Ensure that first responsible suppliers of beverage products take product stewardship responsibility</li> <li>• Provide opportunities for social enterprise and benefits for community organisations</li> <li>• Create opportunities for employment</li> <li>• Complement existing collection and recycling activities for recyclable waste.<sup>21</sup></li> </ul> |
| Targets                  | Under the Regulations the scheme coordinator must achieve a container recovery rate of at least 85% by 2023-24.   |
| Outcomes                 | Outcomes are reported in annual reports, including tonnes recovered and redemption rates. The redemption rate in <a href="#">2021-22</a> was 61%. The container recovery rate is not available.   |
| Funding instrument       | Consumers pay the deposit on the container and may choose to redeem it. Beverage suppliers are charged fees for the services provided by the scheme coordinator, i.e., collection, sorting, logistics, marketing, and administration.   |
| Financial incentives     | The 10-cent deposit provides consumers with an incentive to return containers to collection points.   |
| Governance               | The scheme coordinator is <a href="#">Western Australia Return Recycle Renew Limited</a> (WARRRL) (established by Coca Cola Amatil and Lion), appointed via competitive open market process. WARRRL is required to publish <a href="#">quarterly reports</a> on containers placed on market and redeemed.   |
| Operations               | The government specifies the minimum number of full time and flexible refund points relative to population, minimum operating hours and the maximum distances that people must travel to reach a refund point.  |
| Marketing/communications | Beverage container labels must display the correct refund marking. WARRRL has a consumer-facing <a href="#">website</a> and runs a ' <a href="#">Don't feed the fill</a> ' campaign.  |

<sup>21</sup> DEWR, WA Container Deposit Scheme, <https://dwer.wa.gov.au/cds>

## New Zealand

### Plastic Packaging Product Stewardship Scheme

| CHARACTERISTICS          | DETAIL   |
|--------------------------|--|
| Regulatory model         | <p>The NZ Government has declared plastic packaging as a priority product for product stewardship, as per the Waste Minimisation Act 2008.</p> <p>This declaration requires producers to develop an accredited product stewardship scheme as soon as practicable, failing which the Government can prohibit the sale of the priority products.</p> |
| National or state        | National   |
| The problem              | Only 17% of plastic packaging was recycled at end-of-life. Recent data research funded by the Ministry for Environment also shows that there are high reject rates even at the reprocessing stage of potentially around 33%.   |
| Packaging scope          | Packaging of consumer goods which is disposed in households and away from home (e.g., cafes, workplaces).  |
| Lifecycle stages         | Consumption and Post-consumption (end-of-life)   |
| Objectives               | <p>The scheme and its associated objectives are still being developed. However, Government policy objectives include:</p> <ul style="list-style-type: none"> <li>• Circular resource use</li> <li>• Internalised end-of-life costs</li> <li>• Public accountability</li> <li>• Collaboration.</li> </ul>   |
| Targets                  | The scheme and its associated objectives are still being developed. It is expected that the Government will consider the appropriateness of scheme targets as part of the accreditation process.   |
| Outcomes                 | Being developed by the scheme and subject to government accreditation, as per targets.   |
| Funding instrument       | Being developed by the scheme and subject to government accreditation, as per targets.   |
| Financial incentives     | Being developed by the scheme and subject to government accreditation, as per targets.   |
| Governance               | Being developed by the scheme and subject to government accreditation, as per targets.   |
| Operations               | Being developed by the scheme and subject to government accreditation, as per targets.   |
| Marketing/communications | Being developed by the scheme and subject to government accreditation, as per targets.   |

## APPENDIX 2: GLOSSARY AND REFERENCES

| ABBREVIATION         | DESCRIPTION   |
|----------------------|---|
| APC                  | Australian Packaging Covenant   |
| APCO                 | Australian Packaging Covenant Organisation  |
| B2B                  | Business to business  |
| CDS                  | Container Deposit Scheme (also see DRS)   |
| DRS                  | Deposit Return System (called Container Deposit Schemes in Australia and Bottle Bills in the US)  |
| EC                   | European Commission   |
| Eco-modulation       | An approach to fee-setting that incentivises positive sustainability changes in packaging design, material selection and use and creates demand for recycled content. Examples include lower fees for recyclable packaging and higher levels of post-consumer recycled content. |
| EU                   | European Union  |
| MRF                  | Materials Recovery Facility   |
| NEPM                 | National Environment Protection (Used Packaging) Measure  |
| Network Operator     | Term used to describe an organisation with responsibility for managing a collection network for products or packaging as part of a product stewardship scheme.  |
| NFP                  | Not-for-profit  |
| PRO                  | Producer Responsibility Organisation: Legal entity established to manage a product stewardship scheme   |
| PSO                  | Product Stewardship Organisation: Alternative term for a legal entity established to manage a product stewardship scheme (often used interchangeably with PRO)  |
| Scheme administrator | Term used in Australia to describe a PSO.   |
| Scheme coordinator   | Term used in Australia to describe the PSO responsible for managing a Container Deposit Scheme  |
| SDGs                 | Sustainable Development Goals   |
| SPGs                 | Sustainable Packaging Guidelines  |

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