SEA-MaP

SOUTHEAST ASIA REGIONAL PROGRAM
ON COMBATING MARINE PLASTICS

The Extended Producer Responsibility (EPR) Handbook and Customized Toolkit for the ASEAN Region



An ASEAN project supported by the World Bank

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List of Acronyms

Acronym	Explanation
ADEME	Agence de l'environnement et de la maîtrise de l'énergie (Environment and Energy Control Agency - France)
ADF	Advance Disposal Fee
ADUPI	Asosiasi Daur Ulang Plastik Indonesia (Indonesian Plastic Recycling Association)
AEC	ASEAN Economic Community
AHTN	ASEAN Harmonized Tariff Nomenclature
AMS	ASEAN Member States
ASEAN	Association of Southeast Asian Nations
BCRS	Beverage Container Return Scheme (Singapore)
CE	Circular Economy
CEB	Circular Economy Blueprint (Malaysia)
CPCB	Central Pollution Control Board's (India)
CPR	Collective Producer Responsibility
CSO	Central Statistical Organization (Myanmar)
DEPR	Department of Environment, Parks and Recreation (Brunei Darussalam)

Acronym	Explanation
DENR	Department of Environment and Natural Resources (Philippines)
DPCM	Department of Pollution Control and Monitoring (Lao)
DRS	Deposit Refund System
ECD	Environmental Conservation Department (Myanmar)
ECARs	EPR Compliance Audit Reports (Philippines)
EEE	Electrical and Electronic Equipment
ELVs	End-of-Life Vehicles
EPR	Extended Producer Responsibility
EPRON	E-waste Producer Responsibility Organization Nigeria
EPS	Expanded Polystyrene
EU	European Union
FIA	Food Industry Association
FMCG	Fast-Moving Consumer Goods
FTI	Federation of Thai Industries (Thailand)

Acronym	Explanation
GRM	Grievance Redress Mechanism
HDPE	High-Density Polyethylene
ILO	International Labour Organization
INC	Intergovernmental Negotiating Committee
IPR	Individual Producer Responsibility
IPRO	Indonesia Packaging Recovery Organization (Indonesia)
IRAT	Implementation Readiness Assessment Tool
IRR	Implementing Rules and Regulations (Philippines)
IWS	Informal Waste Sector
KLH	Kementerian Lingkungan Hidup (Ministry of Environment - Indonesia)
KPIs	Key Performance Indicators
KPKT	Kementerian Perumahan dan Kerajaan Tempatan (Ministry of Housing and Local Government - Malaysia)
LDPE	Low-Density Polyethylene
LGU	Local Government Unit

Acronym	Explanation
MAREA	Malaysian Recycling Alliance (Malaysia)
MDTCL	Ministry of Domestic Trade and Costs of Living (Malaysia)
MISTI	Ministry of Industry, Science, Technology and Innovation (Cambodia)
MNRE	Ministry of Natural Resources and Environment (Thailand)
MoC	Ministry of Commerce (Cambodia)
MOF	Ministry of Finance
MOIC	Ministry of Industry and Commerce (Lao)
MPR	Mandatory Packaging Reporting (Singapore)
MRF	Material Recovery Facility
MPWT	Ministry of Public Works and Transport (Lao)
NCSD	National Council for Sustainable Development (Cambodia)
NCEC	National Circular Economy Council (Malaysia)
NEA	National Environment Agency (Singapore)
NECCCCC	National Environmental Conservation and Climate Change Central Committee (Myanmar)
NGO	Non Governmental Organization

Acronym	Explanation
NPAP	National Plastic Action Plan / National Plastic Action Partnership
NRES	Ministry of Natural Resources and Environmental Sustainability (Malaysia)
NSWMC	National Solid Waste Management Commission (Philippines)
OHS	Occupational Health and Safety
PCD	Pollution Control Department (Thailand)
PET	Polyethylene Terephthalate
PIBOs	Producers, Importers and Brand Owners
PMU	Project Management Unit
POM	Put-On-Market
PP	Polypropylene
PPP	Packaging Partnership Program (Singapore)
PRO	Producer Responsibility Organization
PWPs	Plastic Waste Processors
RAP	Regional Action Plan
RDF	Refuse-Derived Fuel
RSA	The Resource Sustainability Act 2019 (Singapore)

Acronym	Explanation
SEA-MAP	Southeast Asia Regional Program on Combating Marine Plastics
SIPSN	Sistem Informasi Pengelolaan Sampah Nasional (National Solid Waste Management Information System - Indonesia)
SMF	Singapore Manufacturing Federation (Singapore)
SYDEREP	Système déclaratif des filières REP (France)
TESDA	Technical Education and Skills Development Authority (Philippines)
ToT	Training of Trainers
UNDP	United Nations Development Programme
UNOPS	United Nations Office for Project Services
VCOMS	Vientiane City Office for Management and Service (Lao)
VEPF	Viet Nam Environmental Protection Fund (Viet Nam)
WRMS	Waste and Resource Management System (Singapore)
ZSVR	Zentrale Stelle Verpackungsregister (Central Agency Packaging Registry - Germany)

1 Executive Summary

1 Executive Summary



This Extended Producer Responsibility (EPR) Handbook and Customized Toolkit have been developed as part of the Southeast Asia Regional Program on Combating Marine Plastics (SEA-MaP). SEA-MaP is a five-year program financed by the World Bank and implemented by the Association of Southeast Asian Nations (ASEAN) through the ASEAN Secretariat (ASEC). It is supported by the Project Management Unit (PMU) and the technical advisory of the Regional Implementation Support Unit (RISU) within the United Nations Office for Project Services (UNOPS). SEA-MaP's objective is to support the ASEAN Member States (AMS) in combating marine plastic pollution and its efforts align with the implementation of the ASEAN Regional Action Plan (RAP) for Combating Marine Debris and the ASEAN and EU Business Council 2025 EPR Report Recommendations.

Plastic pollution has become a growing challenge across Southeast Asia, with millions of tons of plastic leaking into the environment each year from ASEAN countries alone. The challenges across ASEAN countries vary, but often include increasing amounts of waste that is generated directly and linked to increased packaged product consumption, gaps in waste collection systems, limited recycling infrastructure and insufficient legal monitoring and enforcement. Addressing this issue requires urgent coordinated action.

One approach that the ASEAN countries are currently looking into is EPR. This principle makes producers responsible for the full life cycle of their products, including end-of-life management. It covers not only, the collection, recycling and final disposal of these products, but also their conception. EPR can help reduce plastic leakage and encourage a more circular economy by promoting better product design and supporting improved collection and recycling systems.

As of today, three ASEAN Member States have already made significant progress. The Philippines introduced mandatory EPR for plastic packaging in 2023, Viet Nam implemented EPR for all packaging materials in 2024 and Singapore launched the Beverage Container Return Scheme (BCRS) in April 2026. At the time of publication of this document, three additional countries, Thailand, Indonesia and Malaysia, are advancing with their EPR regulations and all others Members are showing genuine interest and are starting discussions on mandatory implementation.

To help with the adoption of EPR and address typical implementation obstacles, the EPR Handbook and the Customized Toolkit have been developed for the ASEAN region. The EPR Handbook draws on regional experience, international best practices and lessons learned from EPR implementation worldwide, offering practical guidance for governments, producers, Producer Responsibility Organizations (PROs), retailers and waste management operators alike. The guidance provided in this Handbook is accompanied by a Toolkit that provides actionable resources, including templates, checklists, guidance notes and examples of best practices. Together, the Handbook and Toolkit transform principles into practice, providing guidance and tools that can be adapted to diverse policy contexts, infrastructure realities and implementation stages across ASEAN - supporting Member States in designing and strengthening EPR frameworks that are effective, transparent and inclusive.

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The Handbook has four main chapters:

- **Chapter 3:** Introduction to ASEAN Context & Principles for EPR Implementation
- **Chapter 4:** EPR Step-by-Step
- **Chapter 5:** Recommendations
- **Chapter 6:** Focused Review of EPR Policies in the ASEAN region

In **Chapter 3**, the Handbook provides basic information on the historical background of EPR and how it has evolved around the world. It also establishes links between the value and potential of sustainable EPR frameworks for ASEAN countries, considering the common challenges and opportunities in the region. These aspects are closely linked to Chapter 6, where the results of dozens of interviews and analysis of plastic EPR policies in 10 countries are carefully summarized[1].

[1]Consultations were conducted with 64 public and private institutions of Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Viet Nam (at the time, Timor Leste was not officially part of ASEAN) throughout 2025. The organizations ranged from informal sector associations to large multinational beverage companies, national SME packaging producers and national environmental authorities. Additionally, three consultation events took place in May 2025, February 2026 and June 2026 with national ministerial authorities of AMS in person to discuss the Handbook and Toolkit drafts.

Organized in a sequence of seven steps, Chapter 4 of the Handbook covers the full EPR process:

- **Step 1, Inception:** Assessing the plastic waste context, identifying stakeholders, defining system objectives and evaluating the country's readiness for EPR implementation.
- **Step 2, Scoping:** Defining the products and producers subject to EPR.
- **Step 3, Design:** Elaborating definitions, establishing targets, deciding on operating models, defining roles, responsibilities and governance structures, designing an EPR registry.
- **Step 4, Regulation and Enforcement:** Developing sound and comprehensive legal frameworks and penalty and incentive structures that can be monitored.
- **Step 5, Implementation:** Operationalizing the system across the value chain.
- **Step 6, Operation:** Managing day-to-day compliance, collection and coordination among stakeholders.
- **Step 7, Continuous Improvement:** Monitoring performance, addressing grievances and refining the system over time.

Following these seven steps and drawing on extensive consultations with ASEAN countries, **Chapter 5** of the Handbook offers tailored recommendations to guide EPR implementation while pursuing circularity objectives in each country, regardless of its progress in drafting or implementing an EPR framework. The chapter also outlines joint initiative paths for the region, while promoting the exchange of information and experience to collaboratively tackle plastic waste management challenges. These paths can be used effectively in combination with the proposed country-specific recommendations in the hope that, together, they will bring about a strong and sustainable approach to responsibly manage plastic packaging waste across the region.

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2 Introduction to the Handbook and Toolkit



This EPR Handbook has been drafted as part of the Southeast Asia Regional Program on Combating Marine Plastics (SEA-MaP). This is a Regional Project funded by the World Bank, aiming to support the Association of Southeast Asian Nations (ASEAN) Member States (AMS) in the implementation of the ASEAN Regional Action Plan (RAP) for Combating Marine Debris.

The EPR Handbook provides a holistic presentation of the EPR concept and its regulatory and institutional manifestations. It presents the status of EPR development in ASEAN, together with select case studies from within or outside the region. Its contents address the needs of the various stakeholders likely to be affected under an EPR framework and present the characteristics and impacts from the perspective of each stakeholder.

While EPR applies to multiple product categories around the world, this Handbook focuses specifically on **plastic packaging**, which has been a major challenge in the ASEAN region. It addresses both upstream and downstream aspects of producer responsibility. Because plastic waste is a global issue, it has led to the Intergovernmental Negotiating Committee (INC) negotiations for the adoption of an international, legally binding instrument on plastic pollution, including in the marine environment.

In addition to this Handbook, a Toolkit for ASEAN has been developed in parallel to support action-oriented outcomes, thereby complementing the informative nature of the Handbook. This Toolkit includes a variety of tools, templates and media designed to enable and facilitate implementation while taking into account the unique circumstances and developmental stages of each Member State.

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2.1 User Guide

How to navigate the handbook Click the title to move between sections

Handbook

Purpose
Explains the EPR key framework, concepts and implementation process.

Content
Explanations, descriptions, case studies, results, recommendations and ASEAN EPR implementation status.

When to Use
The reader wants to understand what and why is relevant for their EPR context.

Toolkit

Purpose
For each Handbook step, provide practicaltools and resources to support implementation.

Content
Guidance notes, checklists, decision trees, templates, & more

When to Use
The Handbook's content is understood, but the reader wants to try out how to implement a specific step.

General Navigation between the Handbook and Toolkit 1/3

Handbook

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Color-coded chapters, to orient the user both explicitly in text and visually

or Toolkit



How They Connect

Handbook ↔ Toolkit Switch

Handbook | Toolkit

While reading either the Handbook or the Toolkit, use the button at the top of the page to switch between the two documents.

See also Toolkit 4.3

Handbook Reference
Chapter 4.5.1

Click here for the Toolkit

Cross References

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Standalone Toolkit

Extract Toolkit

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2.1 User Guide

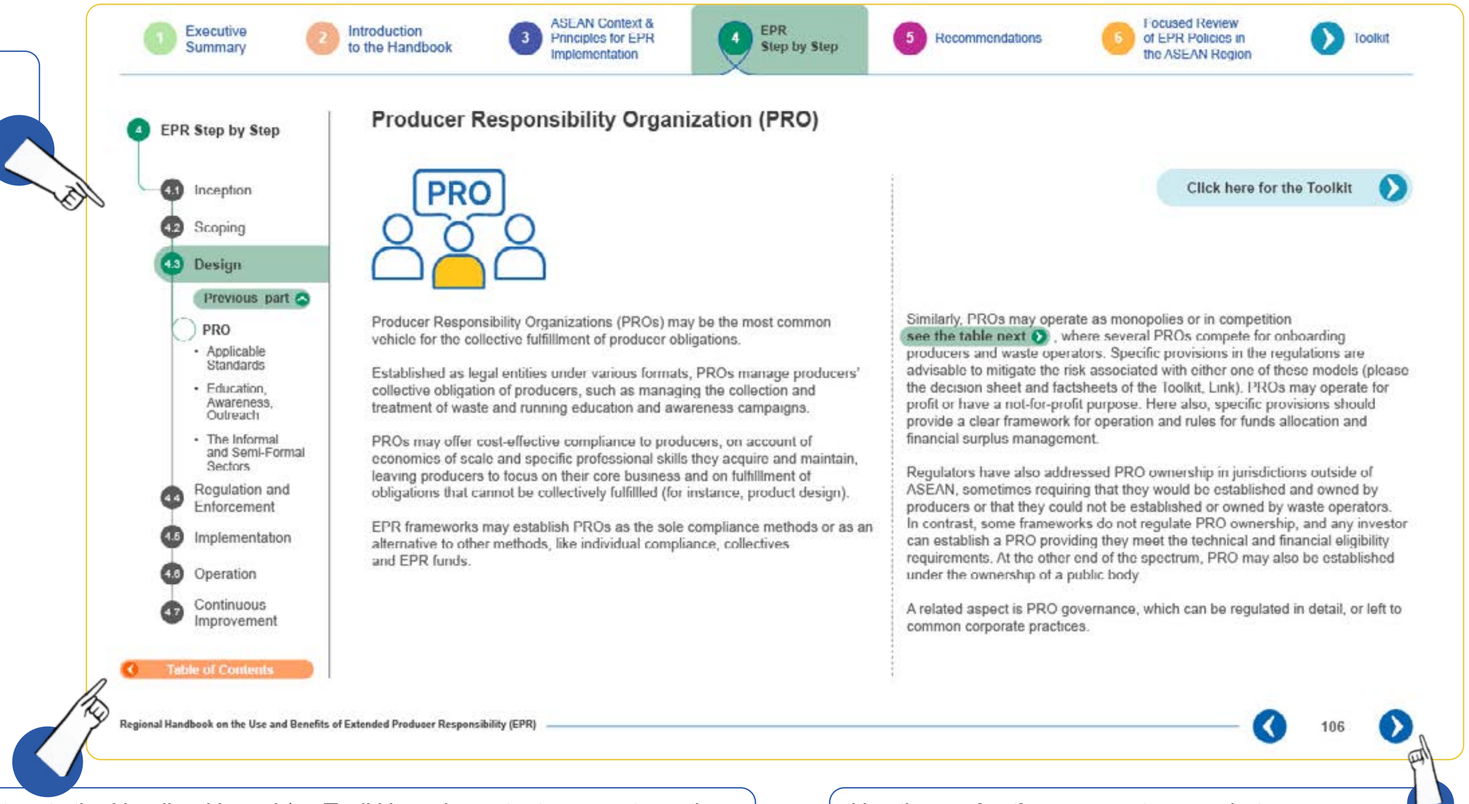
General Navigation between the Handbook and Toolkit

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Simultaneous overview and navigation: click any subsection in the **permanent sidebar** to navigate within sections.



Look for the **Hand Icon** in the first pages to familiarize yourself with navigation containing interactive navigation elements



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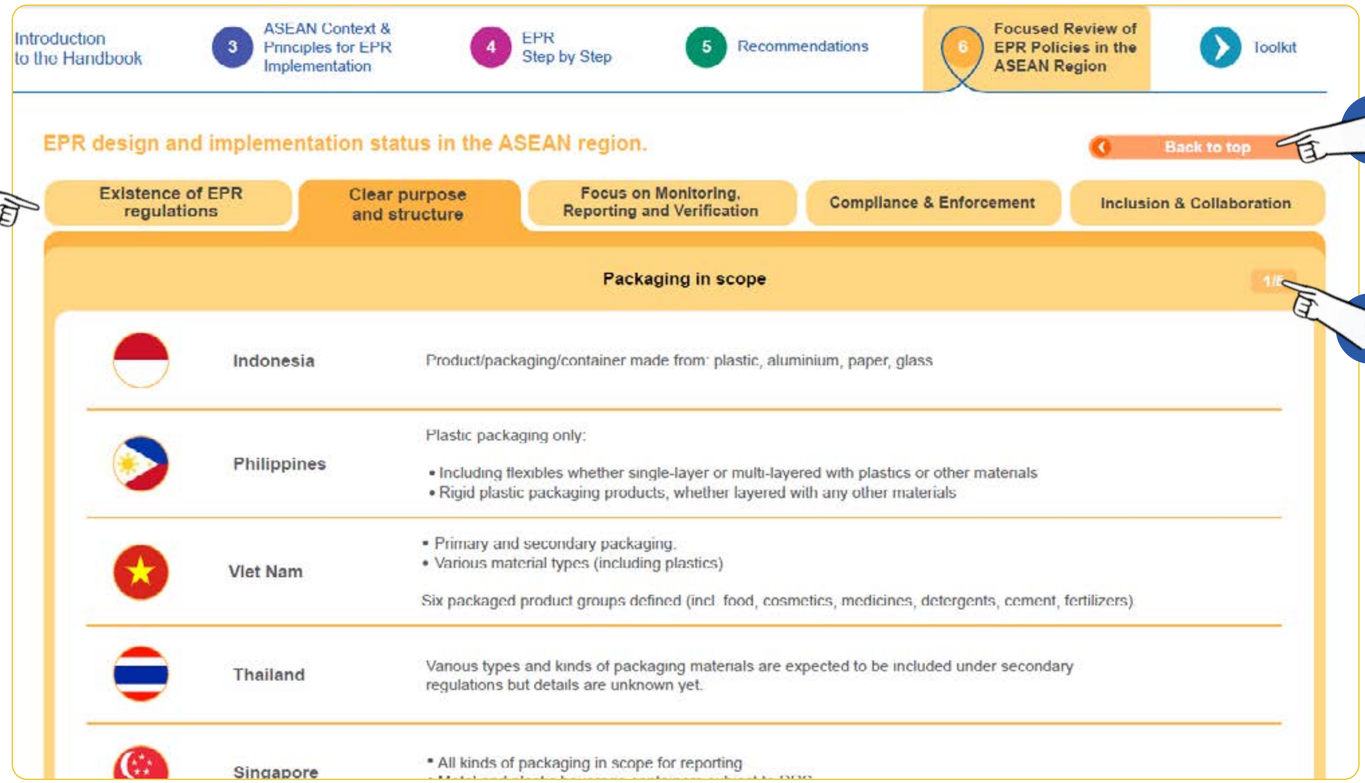
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Highlighted **tabs** to easily navigate interactive tables

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2.2 Objectives of the Handbook and Toolkit

The Handbook is intended for administrations, companies and individuals interested in supporting Extended Producer Responsibility (EPR) implementation as they face the emerging need for EPR systems to address plastic leakages in the ASEAN region. The main purpose of this Handbook is to increase understanding and the capacity of EPR in the ASEAN region. The document has been designed to support ASEAN countries through the effective design, implementation, enforcement and monitoring of EPR **for plastic packaging**. It is meant to provide technical guidance rather than legal advice.



Actors all across the ASEAN plastics value chain can benefit from the practical information included in this Handbook, such as:

- comprehensive overview of implementation of EPR within the ASEAN region, with identified opportunities, gaps and common needs,
- different types of EPR systems implemented within and outside the ASEAN region,
- case studies and lessons learned on the benefits of EPR programs,
- guiding principles of effective EPR systems, covering design, implementation and operation,
- main EPR frameworks, financing models, implementation processes, and possible configurations,
- key components such as definitions, product scoping and segmentation, roles and responsibilities, targets, monitoring and reporting, applicable standards, governance,
- regional and country-specific recommendations.

The Handbook is also particularly relevant in light of the ongoing global discussions to establish an international legally binding instrument on plastic pollution under the United Nations Environment Programme, which may further reinforce its policy relevance; EPR has been identified as a suitable financing mechanism during first rounds of discussion.

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2.3 Target Audience

2.3.1 Policymakers



Policymakers play an important role in creating an enabling environment for a functional EPR ecosystem. Therefore, they need a full understanding of the EPR concept, its components and its articulation within other environmental or waste management policies or regulations. As there are many different configurations and setups to implement EPR successfully, policymakers need this clear overview of the various models in terms of distinctive features, merits and challenges and implementation pathways. They also need to understand the difference between EPR and other mechanisms (such as taxes), as well as potential interactions between these various approaches. This helps them to better understand the advantages and drawbacks of developing scenarios and, ultimately, to make good decisions and develop policies and regulations.

The Handbook helps policymakers to create this enabling environment through stakeholder mapping and dialogue, and also by providing an overview of stakeholders (both public and private) typically involved in and affected by EPR and by giving recommendations on how to engage these different groups.

Additionally, the Handbook provides guidance on how to measure the success of EPR systems by establishing clear benchmarks and evaluating their effectiveness over time.

2.3.2 Municipalities



Municipalities play a key role in EPR implementation as they are typically the first and primary waste management units. Through this Handbook, municipal leadership and technical staff (such as waste departments within municipal authorities) will understand how EPR can support their activities by supplementing or superseding their role for EPR-regulated products. They will learn how available data about plastic packaging waste can help them better plan their operations. In turn, some of the data available in an EPR system can reduce their financial burden for managing wastes. Municipalities will also learn about the specific roles that they can play under an EPR system and what interactions can be expected with other stakeholders, such as PROs.

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- Policymakers
- Municipalities

Importers
Manufacturers
Brand Owners
Retailers

- Waste Management Actors

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2.3 Target Audience

2.3.3 Importers



Most EPR frameworks recognize that the importers of packaged products bear producer obligations. Less frequently, importers of packaging material or plastic material are also considered to be producers.

Importers of products will understand how EPR systems assigns them specific responsibilities and how they can meet the obligations associated with placing regulated products on the market within different EPR frameworks. They will also learn how improving product design can help them maximize the benefits of EPR by enhancing competitiveness while reducing their environmental footprint. Finally, they will understand that EPR is a transparent process that does not create a competitive disadvantage for them in the market.

2.3.4 Manufacturers



EPR frameworks most often assign producer obligations to the manufacturers of packaged products. Less frequently, manufacturers of packaging material or plastic material are also considered to be producers.

Manufacturers of products will gain clarity on the specific responsibilities EPR places on them and the options available to meet these obligations. They will also learn how improvements in product and packaging design can reduce costs, boost competitiveness and lower environmental and social impacts. Finally, they will see that EPR systems can work transparently to support fair competition and reduce the risk of free-riding in the market.

2.3.5 Brand Owners



Brand owners, selling commodities under a registered brand label or trademark, may be recognized as producers under some EPR regulations, separately from their qualification as manufacturers or importers. This Handbook will give them insights into their role in EPR, how to fulfil their respective obligations, and how to gain value from EPR.

2.3.6 Retailers



Retailers will learn how EPR may transfer specific responsibilities to them, and how they can contribute in practice to a successful EPR system. This is relevant from an administrative and operational point of view. For instance, retailers may be expected to play a role in waste collection, the communication of information and free-rider avoidance.

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Waste management actors
- Waste Collectors
- Recyclers
- Informal Sector

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2.3 Target Audience

2.3.7 Waste Management Actors

Waste Collectors



Waste Collectors will learn how EPR may change their operational and economic model due to reinforced source segregation, improved financing of low- or non-valuable waste collection, the role of the Producer Responsibility Organizations (PROs), and the requirements for data and information transparency. They will also understand how to benefit from EPR, learn which performance metrics to pay focus on, and how EPR can support higher and safer operational and occupational standards.

Recyclers



Recyclers of regulated products will learn how EPR can support growth in capacity and technology, the role of the PROs, and how to collaborate effectively in an EPR system. They will better understand how to benefit from EPR, which metrics to monitor, and how EPR can enable higher and safer operationals and occupational standards. They will also learn how to better integrate informal waste actors into recycling activities in ways that improve local livelihoods and working conditions.

Informal Sector



The informal sector will learn how EPR can improve their livelihoods by offering more steady income opportunities and reducing vulnerability to fluctuations in raw material prices. They will get a sense of what changes may be required in their day-to-day work, such as improved sorting practices and reporting, and how to collaborate with PROs and other stakeholders. They will understand how EPR can help increase income, improve working conditions, provide access to better tools, facilities, and technologies, expand their skills and allow them to obtain social recognition.

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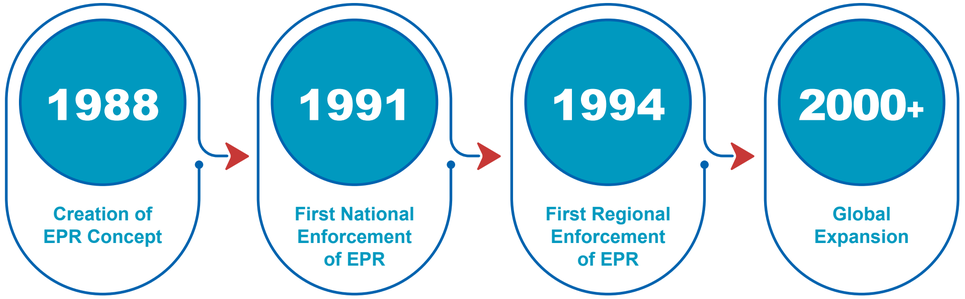
3 ASEAN Context and Principles for EPR Implementation



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3.1 Understanding EPR



Since its conception in Sweden in 1988 and introduction in 1991 in Germany, EPR frameworks have been designed, implemented, and refined across much of Europe, Japan, Korea, and Canada for the past 35 years. More than just an environmental concept, EPR emerged in many countries as a pragmatic response to a waste crisis.

Three major challenges forced policy changes:

- Rapidly increasing packaging volumes
- A shortage of landfill space
- Escalating waste management costs

In the European Union (EU), a major step came with the Packaging and Packaging Waste Directive (94/62/EC) in 1994, which required Member States to establish systems ensuring the recovery and recycling of packaging waste while placing responsibility on producers. It is significant as it was the world's first attempt to standardize EPR at a regional/continental level. The system, initially focusing on packaging, was later expanded to encompass electronics, batteries, vehicles and other product categories.

Early implementation of EPR in the EU revealed several design flaws that were only discovered along the way and had to be progressively corrected. Reporting systems were inconsistent, data unreliable and enforcement uneven across Member States. The cost-sharing arrangements between municipalities and producers were unclear, allowing free-riding and limited accountability. PROs often operated as monopolies with limited transparency, while fee structures failed to reward better product design. In fact, producers who invested in lighter or more recyclable packaging might find no EPR cost reduction and those who made packaging more durable or reusable were penalized with higher charges simply because of the increased weight.

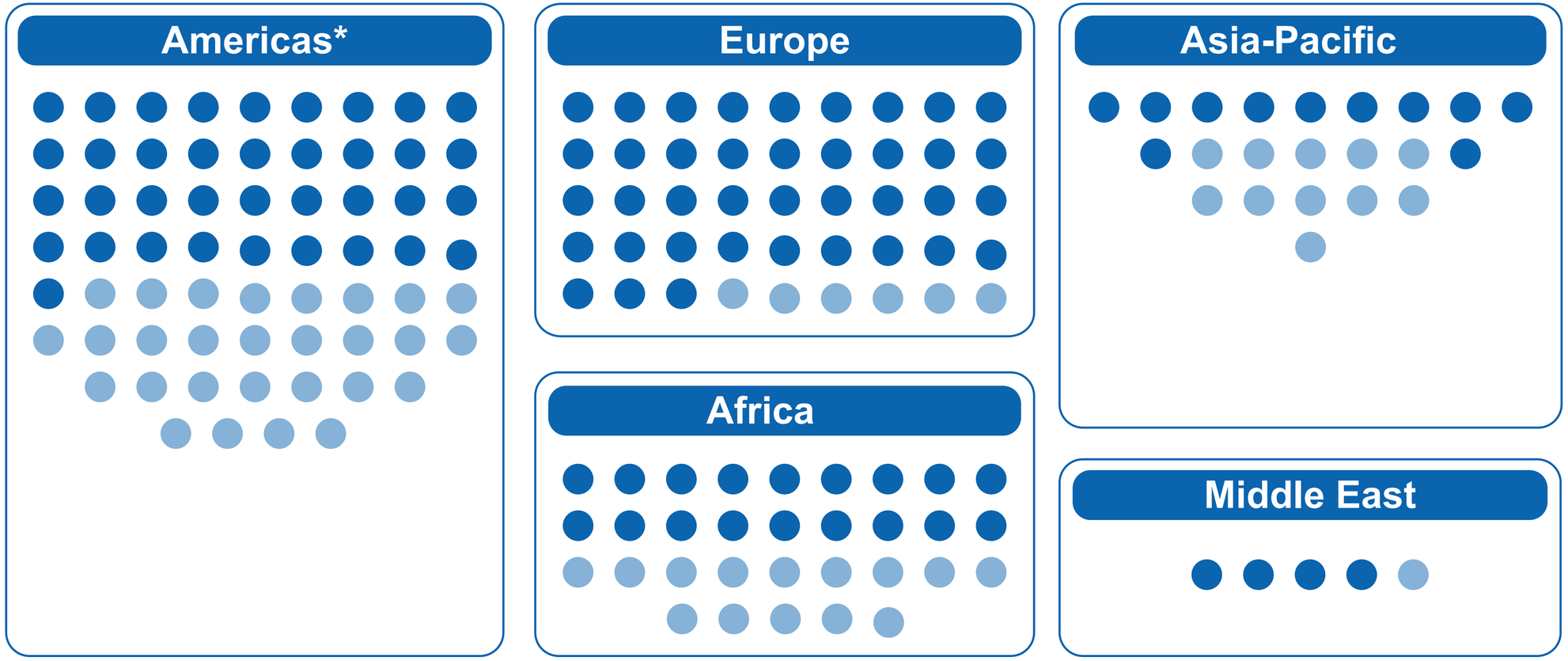
At the same time, the 94/62/EC Directive's focus remained on collection and recycling rather than prevention or eco-design, offering little incentive to innovate. These early challenges forced the EU and Member States to refine the system over time, introducing clearer definitions, harmonized reporting, competition safeguards and fee modulation for recyclability. Additionally, complementary measures such as material restrictions[2] , minimum recycled content requirements or landfill bans can reinforce EPR objectives when applied carefully. These measures only succeed when accessible and affordable alternatives are available, accompanied by clear enforcement and monitoring systems. Together, these instruments create an enabling environment for EPR to function effectively by reducing waste at the source, promoting responsible design and steering markets toward sustainable materials.

EPR is a legal approach adopted beyond Europe. Over time, many low- and middle-income countries in Latin America, sub-Saharan Africa, the MENA region and Asia have enacted or drafted EPR legislation for packaging, as illustrated in **the next Figure**

[2]For more details on material bans, please refer to **the Regional Guidebook** on Phasing out Single Use Plastics (SUP) under the SEA-MaP project

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EPR for packaging worldwide



Legislation in place

Legislation developing

*For the USA, Canada, and Brazil, state-level legislation is included

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EPR for packaging in non-ASEAN countries

The table below provides short illustrative examples of EPR for packaging from non-ASEAN countries:

Country	System introduction	System supervision	PRO leadership	Competition
India	Guidelines on EPR for Plastic Packaging, 2022	Environment agency	Open market	Competition, for profit
South Korea	Amendment of Act on Promotion of Saving and Recycling of Resources, 2003	Directly by the Ministry	Industry-led	Monopoly, not for profit
Japan	Act on the Promotion of Sorted Collection and Recycling of Containers and Packaging, 1995	Directly by the Ministry	Industry-led	Competition, not for profit
Tunisia	Decree No. 97-1102, 1997	Environment agency	Government-led	Monopoly, not for profit
Germany	Packaging Ordinance, 1991	Private	Open market	Competition, for profit
France	Decree 377, 1992	Environment agency	Industry-led	Competition, not for profit

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Global Alignment for EPR in ASEAN

ASEAN countries now have the advantage of drawing on lessons – both successes and missteps – from other regions. However, to transform these experiences into effective systems, EPR design must be adapted to local market structures, governance capacity, data availability and the role of the informal sector. A phased approach in contextualizing EPR implementation is essential for AMS to leapfrog toward a more transparent, progressive, and ambitious EPR system: one that rewards genuine circular design rather than volume, and that embeds fairness, traceability and innovation from the start.

EPR differs fundamentally from a tax: it is not a fiscal instrument, but a responsibility mechanism designed to shift the cost and operational burden of post-consumer waste management from the public sector – or society - to producers. While in an ideal scenario there is no coexistence of a tax and EPR fees for the same producer responsibility purpose, policymakers in charge of regulating and implementing EPR may be confronted with preexisting taxes or levies. If EPR is introduced alongside existing levies or taxes without addressing and solving concerns that producers are likely to raise, the resulting system may lead to costs duplication, and system acceptance can consequently be drastically reduced. On the other hand, if the EPR system is built on a tax mechanism, such as an ad valorem levy on imports, producer accountability is likely to be weakened. In such cases, producers may perceive compliance merely as a payment obligation rather than a performance-based operational and financial responsibility.

It is worth noting that one product can be subject to multiple EPR obligations in a given country. For example, in the EU, in case of Electrical and Electronic Equipment containing batteries, these products are regulated under EPR for Electrical and Electronic Equipment, batteries and packaging.

The current development of EPR in ASEAN is aligning with international and regional frameworks, including the Basel Convention's controls on plastic waste and the ongoing negotiations for a global plastics treaty under the UNEP Intergovernmental Negotiating Committee. Negotiations on the global plastics treaty are still ongoing and have yet to reach a final agreement, but they are important in order to build international momentum to reduce waste pollution.

The efforts to implement EPR help to make progress toward SDG





Responsible consumption and production - core SDG for EPR (waste reduction, recycling, producer responsibility)



Life below water - very relevant for plastic leakage and marine pollution

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3.2 Common Challenges of Waste Management in ASEAN

Real progress has been made across ASEAN: two countries, the Philippines and Viet Nam, currently have mandatory EPR and in a number of others, voluntary schemes and pilot projects show genuine commitment to circularity. Still, common obstacles remain before EPR and plastic waste management in general can reach sustainability. Limited coordination, uneven enforcement and a lack of market incentives often slow down implementation or blur responsibilities. Based on the interviews conducted between February and August 2025 with over 60 stakeholders from the public and private sectors in ten AMS, the following figure summarizes common challenges:

Where ASEAN's EPR Systems Still Struggle

Governance, Monitoring & Enforcement | Infrastructure & Market Constraints | Standardization | Operations | Cross-cutting



Governance, Monitoring & Enforcement

- Overlapping mandates and limited vertical (central–local) and horizontal (inter-ministerial) coordination
- Inadequate penalty enforcement
- Inadequate/non-transparent systems to manage producer contributions
- Sectoral concerns over level-playing-field enforcement once regulation starts (fear of free-riders or selective compliance)
- Illegal imports and limited customs control
- Growth in e-commerce, difficulties in identifying the producer
- Lack of transparent target-setting and/or insufficient monitoring
- Limited expertise in use of digital tools for data collection, auditing of waste collectors and processors and monitoring the achievement of EPR targets

If these challenges are addressed collectively, they offer ASEAN the opportunity to build on its early experiences and design EPR systems that are more transparent, inclusive and efficient at the national and regional levels.

The identified challenges can be addressed by following the EPR guiding principles identified in the next chapters. While some guiding principles tackle one or two specific challenges, other guiding principles form the basis for addressing a multitude of challenges at once.

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Where ASEAN's EPR Systems Still Struggle

Governance, Monitoring & Enforcement | **Infrastructure & Market Constraints** | **Standardization** | **Operations** | **Cross-cutting**



Infrastructure & Market Constraints

- High logistics costs and infrastructure disparity between regions (recycling infrastructure, limited to main cities/ regions/islands)
- Archipelagic nations struggle to provide year-round collection services across thousands of islands, in areas with limited road infrastructure and in remote, mountainous, or flood-prone regions
- Insufficient assurance of stable waste feedstock supply and reliable market demand to achieve financial break-even discourages investment in high-tech waste processing infrastructure
- Market instability (price volatility of recyclables) and inconsistent feedstock supply; recyclers face shortages of high-quality PET and consistent waste volumes due to limited segregation and lack of municipal coordination
- Recycled resin and eco-design adoption increase production costs without price incentives
- No legal requirements or financial incentives for green alternatives lead to a preference for landfilling

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Where ASEAN's EPR Systems Still Struggle

Governance, Monitoring & Enforcement | Infrastructure & Market Constraints | **Standardization** | Operations | Cross-cutting



Standardization

- Absence of a unified reporting system and accurate data across value chains
- No digital tracking or coherent reporting formats
- Lack of user guidance for reporting and declaration
- Lack of regionally aligned packaging design standards, labelling standards, recycled content standards, and respective audit mechanisms
- Uniform third-party audit mechanisms are lacking

If these challenges are addressed collectively, they offer ASEAN the opportunity to build on its early experiences and design EPR systems that are more transparent, inclusive and efficient at the national and regional levels.

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Where ASEAN's EPR Systems Still Struggle

Governance, Monitoring & Enforcement | **Infrastructure & Market Constraints** | **Standardization** | **Operations** | **Cross-cutting**



Operations

- Few reliable recyclers leading to insufficient supply of rPET informal sector unregistered and unprotected
- Low consumer awareness & segregation at source
- High costs to switch to more sustainable packaging (e.g., compostable, made from recyclate); low willingness to pay
- Uneven service access (urban–rural gap)

If these challenges are addressed collectively, they offer ASEAN the opportunity to build on its early experiences and design EPR systems that are more transparent, inclusive and efficient at the national and regional levels.

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Where ASEAN's EPR Systems Still Struggle

Governance, Monitoring & Enforcement | Infrastructure & Market Constraints | Standardization | Operations | **Cross-cutting**



Cross-cutting

- Insufficient financing for waste management services
- Insufficient/fragmented data availability and reporting tools
- Lags in transitioning from voluntary initiatives to mandatory frameworks
- Insufficient budgets and resources for authorities to enforce penalties
- EPR still limited by design or in practice to certain producers; unclear SME obligations
- Missing circularity incentives and focus on downstream processes instead of encouraging better product design
- Limited transparency, risk of free-riders and distrust in participation
- Climate vulnerability as a general major regional challenge

If these challenges are addressed collectively, they offer ASEAN the opportunity to build on its early experiences and design EPR systems that are more transparent, inclusive and efficient at the national and regional levels.

The identified challenges can be addressed by following the EPR guiding principles identified in the next chapters. While some guiding principles tackle one or two specific challenges, other guiding principles form the basis for addressing a multitude of challenges at once.

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3.3 EPR Status Quo in the ASEAN Region

The table below provides a brief overview of EPR implementation status in the AMS based on existing regulations or regulation drafts where available at the time of publication of this Handbook.

Country	EPR for packaging implementation status
Brunei Darussalam	Initial stages of EPR development
Cambodia	Initial stages of EPR development
Indonesia	EPR regulations planned and in planning/drafting
Lao PDR	Initial stages of EPR development
Malaysia	EPR regulations planned and in planning/drafting
Myanmar	Initial stages of EPR development
Philippines	EPR regulations implemented and enforced
Singapore	Implemented EPR for beverage containers through the Beverage Container Return Scheme (BCRS)
Thailand	EPR regulations implemented and in planning/drafting
Viet Nam	EPR regulations implemented and enforced

It reflects the findings from desktop research validated during 1-on-1 local consultations conducted between March and July 2025. (At the time the data for the assignment were collected, ASEAN consisted of ten AMS.)

For more information regarding EPR implementation status in each ASEAN Member state, please refer to **chapter 6**

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3.4 Guiding Principles for EPR Implementation in ASEAN

The EPR principles for the ASEAN region were developed based on best practices in EPR implementation worldwide, as well as on discussions with public and private stakeholders about experiences, lessons learned and major challenges related to EPR implementation in each ASEAN country. One-on-one consultations in ten AMS[3] were held between February and August 2025.

The development of these principles is further situated within ASEAN's existing initiatives and strategic priorities, including the ASEAN SCP - Sustainable Consumption and Production Framework, the ASEAN Blue Economy Implementation Plan for Sustainability and Prosperity and the Framework for Circular Economy for the ASEAN Economic Community. A specific initiative to align standards and requirements for Extended Producer Responsibility, alongside capacity building for ASEAN regulators and producers on EPR schemes, is set out in the Framework for Circular Economy for the ASEAN Economic Community. These initiatives aim to promote the alignment of regional standards and mutual recognition of circular products across ASEAN Member States. In this regard, the EPR guiding principles are intended to complement and support the implementation of these regional instruments, particularly in areas such as addressing plastic pollution, promoting the alignment of regulatory approaches for circularity, fostering collaborative technology innovation and strengthening the participation and competitiveness of MSMEs.

Through enhanced alignment with these regional frameworks and priority outcomes, the EPR principles seek to promote policy coherence, facilitate regional cooperation and contribute to the accomplishment of ASEAN's broader objectives on sustainable consumption and production, circular economy development and environmental sustainability.

Basic Principles of An Effective EPR Framework

Although EPR is a versatile framework, it must be carefully adapted to national legislation and recognize the unique characteristics of each jurisdiction. The following factors are critical to the success of any EPR system:

Pillars of an effective EPR framework

1. Clear Purpose & Structure
2. Measurability with the Focus on Monitoring, Reporting & Verification (MRV)
3. Cooperation & Inclusion
4. Compliance & Enforcement
5. Growth & Continuous Improvement

[3]At the time of these consultations, Timor Leste was not a member of ASEAN

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Principles of an effective EPR framework

1 Clear Purpose & Structure | 2 Measurability with the focus on MRV | 3 Cooperation & Inclusion | 4 Compliance & Enforcement | 5 Growth & Continuous Improvement

1/4

Define the focal public sector entity or entities responsible for driving EPR implementation



EPR regulations are developed and introduced by the main focal public sector entity in the country. Often, it is developed under the Ministry in charge of the Environment with the possible support of an associated agency or authority.

In the first step, these entities need to be clearly defined and their responsibilities need to be clarified. Further information can be found in

To ensure that the EPR system development and the EPR regulation preparation and publication are conducted effectively, the responsible public entity shall be identified and lead the process.

Section 4.3.4 - Roles & Responsibilities

Define the objectives of EPR



Successful EPR frameworks clearly define their overall purpose(s); for example, reducing pollution, enabling investment in infrastructure, financing waste collection, increasing recycling rates or improving resource efficiency. Clear objectives guide policy design and help stakeholders understand the expected outcomes. They also form the foundation for setting measurable targets and evaluating progress.

While EPR can address all of the above, different objectives require different amounts of time to materialize. Therefore, it is recommended that in the nascent stages of EPR implementation, only 1 or 2 objectives (top priorities) be selected by the AMS to get the system up and running.

Section 4.1.2. - EPR Objectives

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Principles of an effective EPR framework

1 Clear Purpose & Structure | 2 Measurability with the focus on MRV | 3 Cooperation & Inclusion | 4 Compliance & Enforcement | 5 Growth & Continuous Improvement

2/4

Set realistic and trackable targets



Well-defined targets set a clear direction for what exactly is to be achieved and by when; create accountability; and promote continuous performance improvement. Well-defined EPR targets are SMART (Specific, Measurable, Achievable, Realistic and Time-bound). This ensures that producers are given practical and suitable goals and that regulators can track progress over time and make necessary adjustments. Targets are derived from the EPR objectives; they may address downstream goals – waste management related, such as collection and recycling achievements – and upstream goals, which are essentially related to product design.

To ensure that waste is not only collected but also processed in an environmentally-suitable manner (rather than dumped), it is recommended that in addition to waste collection targets, recycling targets be set by AMS – collection targets alone may prove to be insufficient.

Section 4.3.2 - Setting Targets

Use clear and consistent definitions



Precise and complete definitions are needed to avoid any ambiguity or loopholes so that the regulation can be interpreted uniformly by all participants in the EPR system. The list of key definitions requiring special attention by drafters encompasses terms such as “producer”, “product” and “recycling”.

Some of the definitions might already exist in national laws and they should be taken into consideration to avoid confusion and legal glitches. ASEAN countries implementing EPR are also recommended to check definitions proposed in other ASEAN countries, which, aside from providing useful reference, could allow for alignment across the region and simplify producer obligations.

Section 4.3.1 - Definitions

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Principles of an effective EPR framework

1 Clear Purpose & Structure | 2 Measurability with the focus on MRV | 3 Cooperation & Inclusion | 4 Compliance & Enforcement | 5 Growth & Continuous Improvement

Define scope



In the case of EPR for plastic packaging, the following scope can be defined by providing explicit and clear answers for the following topics:

- Products or materials included in the scope
- Plastic packaging usage covered,
- Producers subject to the obligation.

This clarity supports consistent application across sectors and, consequently, better enforcement. It is worth noting that outlining the scope is only possible with clear and consistent definitions.

In the ASEAN context, greater policy clarity and consistency and more effective implementation could boost investor confidence and attract the financing needed to scale up capacity across every stage of the plastic lifecycle.

Section 4.2.1 - Products under EPR
Section 4.2.2 - Producers under EPR

Clarify roles & responsibilities



Clearly stated and detailed duties for each stakeholder – including producers, PROs, waste operators, local authorities, consumers and regulators prevent confusion among stakeholders and gaps in responsibility, thus limiting intentional and unintentional free-riding. This clarity also enables structured coordination among public authorities and between public and private actors by defining who leads and who implements, and how information, reporting and oversight responsibilities are shared across the EPR system.

ASEAN countries in the initial EPR implementation stages are advised to review the roles and responsibilities defined in other countries where EPR regulations have been implemented and are operational, such as the Philippines and Viet Nam, and to draw on their experiences, including good practices and lessons learned from the encountered challenges.

Section 4.3.4 - Roles and responsibility

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Principles of an effective EPR framework

1 Clear Purpose & Structure | 2 Measurability with the focus on MRV | 3 Cooperation & Inclusion | 4 Compliance & Enforcement | 5 Growth & Continuous Improvement

Promote understanding and engagement



Awareness programs inform producers of their obligations, waste management companies and informal sector of their role under EPR and consumers of their part in sustainable consumption and proper waste disposal. Education campaigns, workshops and the development of accessible tools and materials increase participation, compliance and understanding of EPR objectives.

Successful implementation of EPR is linked to the effective segregation of regulated products from non-regulated waste streams at the source. Without appropriate source separation practices, reaching collection and recycling targets may be difficult, and the quality of the recycled materials would could be rather low. In this regard, the separation of organic and non-organic waste streams may serve as a foundational step towards improving overall waste management efficiency.

In addition to fostering such a change in consumer behavior, AMS governments may decide to allocate funds for educational and awareness campaigns. In addition, producers and/or PROs could be encouraged to allocate an appropriate share of their EPR budgets (e.g., 10%) to awareness-raising and public education activities, in line with national regulatory frameworks.

Section 4.3.2 - Setting Targets

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Ensure all producers are registered



A Producer Registry provides a suitable environment for identifying obligated enterprises and recording quantitative information about the products or materials placed on the national market and about how they are entering the market, i.e. via manufacturing, importing or distant selling.

Registration allows authorities to track all obligated entities while ensuring that no company operates outside the system. It provides transparency and a foundation for compliance monitoring to avoid free-riding and fraud. It also provides a basis for measuring the achievement of targets, such as collection or recycling.

Ensuring the consistency of the registry data structure across ASEAN countries could be explored where appropriate and subject to national circumstances. It could be a means to facilitate producer compliance and reduce the administrative burden for regional producers, and could also facilitate regional benchmarking.

Ensure waste operators are registered



Registration of waste operators helps authorities and PROs to understand to existing collection, sorting and treatment capacities as well as to identify infrastructural gaps.

In the ASEAN context, where waste management systems can be fragmented and the informal sectors often play a significant role, registering waste operators is critical. When combined with licensing and minimum environmental and social standards, registration can help ensure that waste is managed in an environmentally sound manner and support occupational health and safety while respecting human rights (registered operators can play a role in informal sector formalization efforts). While registration is foundational for MRV, its design should be proportionate to national capacities. Overly complex systems may unintentionally exclude informal workers, increase compliance costs, and create barriers for small operators. Registration therefore needs to be phased, proportionate to capacity, and paired with transition support for informal actors.

Section 4.3.6 - EPR Registry

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Collect reliable data confidentially



Regular (e.g., annual), mandatory reporting to the registry by producers of the quantities of products placed on the market and their end-of-life management is necessary. Additionally, reporting by waste operators makes it possible to verify the collection and treatment volume from two independent data sources: EPR systems and waste operators.

The obligation to register and report could precede target setting so that the baseline is well defined and targets are established against an accurate baseline. This, for instance, can be required by the regulator in the transition period.

The data captured by the registry support evidence-based policymaking and enable accurate measurement of progress. Consistent reporting also enables comparisons and benchmarking across EPR systems and sectors. Confidentiality guarantees and the protection of sensitive data should be a priority, as data such as quantities placed on the market is considered to be competitive by nature.

Section 4.6.1 Introduction of Compliance Scheme Reporting and Traceability

Track progress with key performance indicators



Key Performance Indicators (KPIs) measure performance against downstream and upstream targets, such as the collection, recycling, and recovery rate and the reuse or material reduction.

In the ASEAN context, where EPR systems remain at an early stage of development and data availability may be limited, developing clear and measurable KPIs could help to monitor collection, recycling, and recovery performance. Monitoring KPIs will enable regulators to identify implementation gaps and areas of success within the EPR framework. Well-designed and context-appropriate KPIs will increase transparency, support local (within the country) and cross-border benchmarking where relevant, and help win buy-in from producers and investors seeking effective EPR systems.

Section 4.7.1 Performance Assessment

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Private sector



The participation of private companies, including producers, PROs and waste management operators extends beyond compliance. The private sector can drive innovation in eco-design (for example, in producing recyclable plastic parts that replace non-recyclable or hard-to-recycle materials), recycling technology and innovative take-back business models, among others. Waste operators can also support formalization efforts by initiating cooperation agreements with cooperatives of pickers. Private-private and private-public collaboration is important at the planning, launching and monitoring stages of EPR.

In the ASEAN context, where the maturity of recycling markets and infrastructure development levels vary across and within AMS, the strengthened engagement of the private-sector may help address capacity gaps, especially between main cities/islands and rural areas/remote islands. In this regard, structured cooperation among relevant stakeholders could contribute to greater coherence in EPR systems, more uniform waste management coverage, and inclusion of key actors in the plastics value chain.

Public sector



Interinstitutional cooperation between ministries and government agencies is necessary to deal with imports (customs authorities), manufacturing and distribution (commerce and industry), and waste management (environment and local authorities). Cooperation is also necessary to develop mutual understanding and agreement on the EPR framework operations and data. Communication paths and data sharing facilitate monitoring. At the same time, both human and other resources, such as financial or technical, necessary to launch and monitor EPR; these represent costs that authorities must always consider, whether they are retained by the authorities or passed on to the private sector.

ASEAN countries may face varying levels of institutional capacity and digitalization, which may pose challenges for effective cross-agency coordination. This complexity is amplified in ASEAN countries with a decentralized or federal governance structure, where waste management and enforcement responsibilities may be shared across multiple tiers of government. Strengthening reporting and data systems and clarifying roles and responsibilities across national and subnational levels can help enhance coordination, reduce duplication of reporting requirements, and promote more consistent implementation practices.

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Informal Sector



Informal waste workers contribute significantly to material recovery and recycling efficiency. Their integration may be challenging and should be carefully managed to help close collection gaps and support social inclusion.

Considering the prevalence of the informal sector in several ASEAN countries, formal waste operators and PROs can support integration by forming partnerships with waste picker cooperatives or associations. This will help avoid the pitfall of EPR systems unintentionally undermining informal waste workers' livelihood by, for instance, restricting their access to recyclable materials. Integration mechanisms should be accompanied by clear safeguards and support measures, access to equipment and training and recognition of informal workers' roles within local waste management systems.

Section 4.3.10 - The Informal and Semi-Formal Sectors

International relevance



Countries with EPR are not isolated in the regional or international arena and plastic pollution does not respect political borders. This is particularly relevant for international trade of raw materials, products and waste fractions.

Greater alignment on EPR-related standards, could help reduce potential trade frictions, support the development of regional markets for recycled materials and strengthen compliance with relevant transboundary waste regulations (e.g., Basel Convention). By agreeing upon labelling, classification and recycled materials quality standards, inter alia, steps towards coherent EPR systems can be implemented in ASEAN.

Section 4.3.8 - Applicable Standards

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Base enforcement on strong foundations



For enforcement to work, authorities need a clear and measurable set of obligations, the achievement of which they can monitor. Standardized reporting, traceable data and well-defined targets allow regulators to verify submissions, identify cases of non-compliance through reports and audits and act on them. That way, authorities can detect gaps and apply penalties in a fair and transparent manner.

In the ASEAN context, where data systems may be fragmented, levels of digitalization may vary, and governance structures may be decentralized, the introduction of digital traceability tools, coherent reporting templates and clear roles between national and local (and/or federal) authorities will enhance implementation of EPR frameworks.

Monitor, audit and penalize non-compliance



Strong enforcement solutions include the audit and inspection of producers, PROs and waste operator activities. Applying proportionate fines or penalties to non-compliant companies or “free-riders” strengthens fairness in the system and helps maintain a level playing field. Visible and consistent enforcement can build collective trust, reduce incentives to evade obligations and motivate voluntary compliance. Revenues from fines may be earmarked for EPR implementation.

Given the prevalence of SMEs in the AMS economies and cross-border trade, monitoring requires both capacity building and risk-based auditing. This means prioritizing oversight and inspections based on risk factors such as market share, past non-compliance, high-risk product categories, unusual reporting patterns, or suspected illegal imports and exports. Transparent implementation and clear accountability across multi-tier supply chains can help address common regional challenges, including free-riding, illegal product and waste imports and fragmented responsibilities across national and subnational levels.

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Regularly review and strengthen performance



EPR systems evolve over time and should be strengthened through periodic reviews and performance assessments. Benchmarking progress against the baseline and, where possible, against regional thresholds, can help to identify implementation bottlenecks, to remedy design flaws and to make more informed adjustments to targets based on the demonstrated successes.

As ASEAN countries have different levels of EPR implementation readiness, regular regional benchmarking and knowledge exchange may offer significant benefits. Peer learning, common performance indicators and regional platforms may help AMS governments avoid design and implementation challenges, align expectations across stakeholders and progressively converge towards higher performance standards.

Adjust targets as capacity and technology grow



EPR implementation should reflect the country's economic and infrastructural capacity. Starting with achievable targets allows gradual progress without overburdening producers or waste management systems. As infrastructure and technologies develop, targets can be scaled up to drive higher environmental performance.

Given the diversity among ASEAN countries in recycling infrastructure, investment capacity, urban–rural contexts and the archipelagic nature of some of the countries, EPR implementation may benefit from flexible and context-responsive approaches. Phased targets allow for adapting to the EPR system requirements and gradually improving it. They also enable inclusion of SMEs and local governments within realistic timelines. They may additionally encourage long-term investment in domestic recycling markets, regional value chains, and technology upgrades.

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By making producers financially and operationally responsible for the post-consumer stage of their products, EPR Systems in the EU helped prevent higher municipal taxes and the expansion of landfills, while spurring investment in recycling infrastructure and markets for secondary materials.

In the ASEAN context, where ASEAN countries face pressures such as marine pollution and plastic leakage, EPR provides a tested framework that can be tailored to national contexts while adhering to regional and global standards.

In particular, EPR implementation can complement the objectives of the CE Framework for the ASEAN Economic Community (AEC) by:

- Supporting resource efficiency
- Strengthening materials recovery
- Fostering a transition towards more circular production and consumption systems

By doing so, and applying the guiding principles in section 3.4 tangible improvements could be achieved in the waste management sector in ASEAN, slowly closing gaps and transitioning into a circular economy, as shown in the following figure:

Overview of EPR benefits for ASEAN

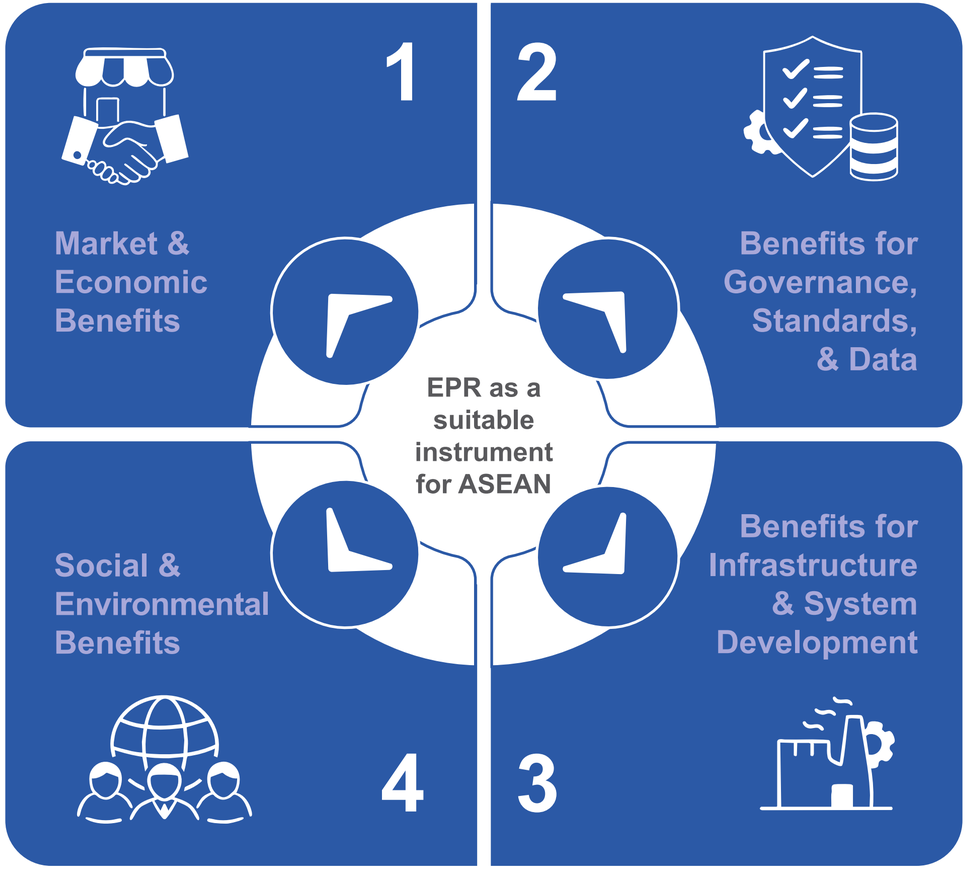


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Overview of EPR benefits for ASEAN

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1 The following market and economic benefits are created by EPR



- EPR builds investor confidence by creating predictable, rules-based and enforceable systems that can attract both domestic and foreign investment in collection, sorting, recycling and circular business models.
- EPR reveals the true economic cost of packaging waste through clear reporting and fee mechanisms – increasing transparency and supporting fair competition among market actors.
- EPR mobilizes dedicated financing for waste management by collecting producer fees that are earmarked for managing the post-consumer waste generated by regulated products over which such fees are levied.
- EPR improves market efficiency by aligning the incentives of producers, recyclers and local governments.
- EPR stimulates steady demand for recycled content (through incentives or design requirements) and supports the growth of local recycling markets.
  - EPR encourages regional trade in recycled materials through aligned quality and certification standards.
  - EPR makes cross-border movement of recycled plastics and packaging components more practical and transparent.
  - EPR enables fair and transparent pricing for recyclables, which strengthens the economic foundation for formal collection and recycling systems.

2 The following benefits for governance, standards and data are enabled through EPR



- EPR expands access to reliable data on material flows, costs and recovery rates, allowing governments to plan based on real information and waste management operators to offer benchmarked services.
- EPR strengthens transparency and accountability through standardized reporting, independent verification and open PRO management.
  - EPR helps detect fraud, free-riding and loopholes.
- EPR supports the introduction of consistent and informative product labeling that improves sorting accuracy and consumer trust, also increasing awareness.
- EPR provides the foundation for mandatory minimum recycled-content requirements and other circular design regulations and increased adoption of eco-modulated fees.

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Overview of EPR benefits for ASEAN

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3 The following benefits for infrastructure and system development can be realized through EPR

- EPR can facilitate the introduction of waste separation at source for cleaner material streams via organizational measures, financing and education.
- EPR directs producer contributions into tangible improvements in waste collection (particularly important for islands and remote areas) and covers real costs for recycling, allowing public spending to focus on financial incentives for infrastructure.
- EPR supports the establishment of reverse logistics networks and traceability systems.
- EPR encourages innovation in sorting, reprocessing and digital monitoring technologies adapted to local contexts.
- EPR helps strengthen domestic recycling capacity which in turn can adhere more easily to regional standards.

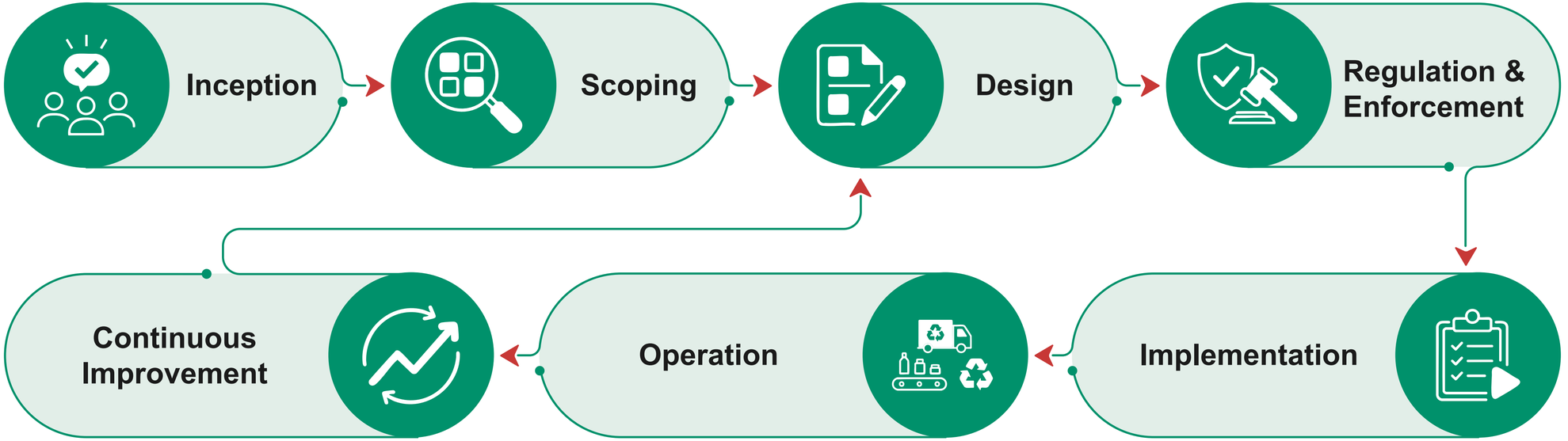
4 The following social and environmental benefits can be achieved through EPR

- EPR drives redesign and phase-out of products and materials that are difficult or impossible to recycle.
- EPR promotes upstream measures, such as refill/reuse systems and improved product design to reduce waste generation at the source.
- EPR increases collection and recovery rates by integrating informal collectors into transparent and well-managed systems.
- EPR encourages the gradual formalization and professionalization of the informal waste sector, including better pay, safer working conditions and access to training and equipment.
  - EPR generates decent jobs across the value chain, including more opportunities for women in technical and leadership roles.
  - EPR improves livelihoods of informal waste workers through more stable income opportunities, recognition and access to occupational health and safety protection measures.
  - EPR promotes inclusive participation by creating safe opportunities for women and persons with disabilities and reducing barriers to decent work.
  - EPR strengthens safeguards against harmful practices, including child labor, through clearer standards, monitoring and accountability.
- EPR raises public awareness about waste prevention, responsible consumption and circular design.
- EPR fosters cooperation among government, industry and citizens, turning waste management into a shared and economically viable system rather than a public expense
- EPR supports measurable environmental goals by mitigating greenwashing and reducing reliance on qualitative claims.

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4 EPR Step by Step

This chapter presents a practical roadmap for ASEAN Member States to design, implement and strengthen EPR systems. Each phase is detailed in sequence, enabling users to identify where they are in the process and what steps are required to move forward:



The guidance provided in this chapter draws on regional experiences, international practices and real-world implementation constraints, particularly in contexts with limited recycling infrastructure or fragmented waste governance systems.

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4.1 Inception



The inception phase lays the groundwork for introducing EPR by building a shared understanding of objectives, responsibilities and system boundaries. It helps to align expectations early across government, industry and other key actors.

This section explains what EPR can achieve, what lies beyond EPR and how to assess a country's readiness using a dedicated tool. It also identifies stakeholders who should be engaged from the outset to support effective design and implementation.

In practical terms, the inception phase typically involves a set of concrete activities aimed at building a shared understanding and testing the feasibility of EPR in the given context. These may include bilateral and multistakeholder consultation meetings with public authorities, producers, recyclers and waste management operators. Baseline analysis, targeted surveys or interviews might be conducted to gather data on market structures, material flows and existing collection and recycling practices. Awareness-raising workshops can also help to align expectations and clarify the scope and limitations of EPR among stakeholders.

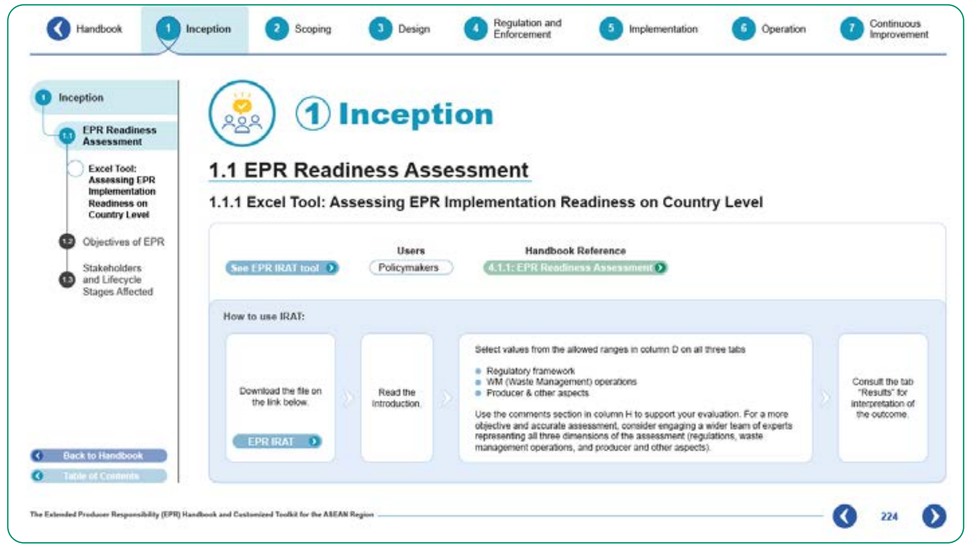
A successful inception phase results in a common vision of what EPR is expected to achieve, a clear identification of roles and responsibilities and an initial assessment of the country's readiness to move forward. Typical outcomes include documented stakeholder feedback, an overview of baseline conditions and data gaps, initial political and industry buy-in and a decision on how to proceed to the design phase of the EPR framework.

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4.1.1 EPR Readiness Assessment



EPR implementation may be facilitated by assessing and quantifying a country's readiness to implement EPR. AMS governments are encouraged to use the EPR Implementation Readiness Assessment Tool (EPR IRAT) designed specifically for them.

IRAT, a Microsoft Excel tool, enables a detailed analysis of parameters relevant to EPR adoption. It is based on good practices from mature EPR systems and most recent implementations but also includes observations from middle-income countries and the problems they are facing. It helps identify potential gaps in EPR implementation for ASEAN countries and allows any country to assess itself against 13 critical factors categorized within regulatory frameworks, waste management operations, and also producer and other relevant aspects.

Please refer to the Toolkit to better understand IRAT and your country's EPR implementation readiness.

Click here for the Toolkit

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EPR IRAT and its critical factors to assess a country's readiness for EPR implementation

1 Regulatory framework

a Status of EPR regulation

Evaluates whether legislation for EPR is enacted and in force

b Completeness of regulation

Assesses the comprehensiveness of EPR regulations, ensuring all necessary aspects are covered for effective execution

c Alignment between State Laws and Federal Laws

Measures the consistency of EPR regulations across different levels of government

d Status of EPR registry implementation

Indicates the development and operational status of EPR registries, essential for tracking producer compliance and waste management data

2 Waste management operations

e Waste Collection

Reflects waste collection rate, the infrastructure and efficiency of waste collection systems

f Waste Recycling

Evaluates the capacity and effectiveness of recycling systems, if recycling facilities are already existing, the collected recyclables can be treated within the country. The level of development of the recycling facilities will provide information about the quality of the recycled materials, evaluating of the materials are either recycled or downcycled.

g Recovery

Examines the capabilities for recovering resources from waste; this includes the assessment of waste-to-energy plants and co-processing facilities. Waste incineration and the production of RDF is an important aspect of treating materials where no recycling activities exists due to low material quality or treatment is not financially viable.

h Landfilling / final disposal

Looks at the practices and facilities for final waste disposal, influencing the pressure and focus on recycling and recovery in EPR schemes

3 Producer & other aspects

i Producer market

Reviews the market dynamics of producers who will be responsible for EPR. This focuses on the share of international producers and formal producers in the market. Multinational companies often already have EPR obligations in other countries and can support the EPR implementation with their experiences.

j Access to capital

Considers the financial resources available to stakeholders to implement EPR systems, vital for supporting infrastructure and operational improvements

k Pre-existing PRO initiatives

Assesses the presence and maturity of Producer Responsibility Organizations, including voluntary initiatives and possible established networks and experience

l General awareness & willingness to implement EPR

Reflects the level of understanding and support among stakeholders and the public

m Availability of data

Evaluates the accessibility and quality of waste and recycling data, which is essential for planning, monitoring and improving EPR systems

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4.1.2 Objectives of EPR

EPR systems can address the environmental and economic impacts of plastic packaging waste by ensuring that producers take responsibility for the end-of-life management of their products. Still, while EPR is often expected to deliver a wide range of outcomes, from waste reduction and circularity to marine litter prevention, it is necessary to distinguish between objectives that EPR can realistically achieve and those that require broader policy frameworks.

Environmental objectives



The primary area where EPR has a significant and direct impact is on collection, sorting and recycling performance. EPR ensures long-term investment in collection systems, logistics and recycling infrastructure by transferring financial and organizational responsibility to producers. This increases recycling rates, improves recycled material quality and reduces reliance on landfills. These operational improvements, in turn, strongly support environmental goals such as reducing plastic leakage, littering and marine pollution, as properly collected and sorted materials are far less likely to escape into the environment.

EPR also helps divert waste from landfills, increase overall waste system efficiency and reduce greenhouse gas emissions associated with waste mismanagement and virgin material production. EPR plays an important role in these areas because it provides long-term funding for system upgrades and establishes performance-based targets for producers and Producer Responsibility Organizations (PROs).

Some environmental goals, however, such as source reduction, waste prevention, eco-design and increased reuse are only partially influenced by EPR. EPR fee modulation **(see section 4.4.3 for details)** and reporting requirements can encourage producers to improve packaging design, but meaningful progress will require additional policy instruments such as design standards, recycled content requirements, restrictions on problematic packaging formats, reuse targets and incentives for alternative business models based on reuse or refill, for example EPR can help with these goals, but it cannot drive them alone. Some of these additional instruments can however be built into an EPR framework from the outset.

EPR is not the right system to directly fund major infrastructure development, such as collection and recycling facilities. However effective EPR implementation creates the conditions that make such investments possible:

- Clearer roles
- Stable financing for operations
- Improved material recovery
- Contractual incentive mechanisms
- A more reliable market signal for infrastructure providers

If recycling facilities already exist, EPR can indeed contribute to the environmental goal by increasing waste treatment rates, for instance by reducing waste contamination thanks to source segregation.

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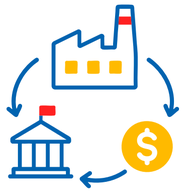
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Economic objectives



EPR is critical for internalizing environmental and waste management costs into product prices, ensuring that producers, not municipalities, bear the financial burden of post-consumer packaging waste. This shift enables more predictable and sustainable financing of waste management systems, relieving pressure on public budgets and allowing municipalities to redirect resources to other priorities.

Another reasonable economic goal of EPR is to stimulate domestic recycling markets. EPR fosters private investment in recycling facilities and related industries by improving recycled material quality and ensuring consistent feedstock volumes. Although EPR does not protect recycling markets from global commodity price fluctuations or competition from imported recycled materials, it does improve the consistency of local supply chains and nurture businesses in the domestic field.

EPR also helps improve waste management efficiency by enabling coordinated planning, transparent reporting and optimized collection and recycling arrangements at both the local and national levels. These enhancements reduce duplication, improve service delivery and strengthen system accountability.

Social objectives



EPR can provide a useful platform for promoting informal sector integration. In several ASEAN countries, informal collectors and recyclers play an important role in materials recovery and recycling value chains. However, due to the varying capacity and regulatory landscape across the region, they may face challenges, including limited access to social protection, income instability, and heightened exposure to occupational health and safety risks. EPR systems can help fund contracting models, capacity-building programs and inclusion mechanisms that improve livelihoods and formal recognition. Nonetheless, formalization requires action in parallel on registration systems, occupational safety and local governance. EPR can fund and facilitate integration, but it cannot address all social-sector challenges.

EPR implementation also helps to create jobs and develop skills, particularly in terms of improved collection, sorting and recycling activities. As systems and infrastructure grow, new roles emerge in logistics, auditing, material recovery, data management and consumer engagement.

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Objective	Achievable under EPR?	Rationale
Waste reduction (overall volume of waste generated)	EPR plays a supporting role; other tools are essential.	EPR alone does not significantly reduce total waste generation. Reduction requires eco-design regulations, packaging standards, and demand-side measures.
Source prevention/reduction at source	EPR plays a supporting role; other tools are essential.	EPR can encourage prevention through fee modulation, but strong upstream design rules and sustainable consumption policies are needed for meaningful results.
Improved recycling rates	EPR can directly achieve this objective.	EPR directly finances and organizes collection, sorting and recycling; strong evidence from many countries shows performance improvements.
Improved reuse rates	EPR is not a primary driver and cannot deliver meaningful outcomes without strong complementary policies.	EPR can support reuse, but reuse increases only when accompanied by specific regulatory requirements, such as minimum reuse quotas, standardized reusable packaging, deposit-return systems, or bans on certain single-use formats.
Increased circularity of plastic materials	EPR can directly achieve this objective.	EPR improves recycling flows, but circularity depends on market demand, recycled content policies and stable end markets.

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Objective	Achievable under EPR?	Rationale
Reduction of mismanaged plastic packaging waste (land-based system performance)	EPR is a strong enabler, but not fully sufficient on its own.	This objective focuses on strengthening waste management systems and reducing land-based leakage at source. It directly aligns with the core function of EPR—shifting responsibility upstream to improve product design, financing and recovery performance.
Prevention of plastic leakage into aquatic and marine environments (environmental impact outcome)	EPR contributes significantly but requires complementary policies.	This objective addresses the downstream environmental impact. While EPR contributes by reducing overall mismanaged waste, achieving this objective also requires complementary measures such as riverine interception systems, coastal waste management, anti-dumping enforcement and public behavior change initiatives.
GHG emissions reduction	EPR contributes significantly but requires complementary policies.	EPR promotes recycling and reduces landfill use, but major climate impacts depend on broader decarbonization and material substitution strategies.
Landfill diversion	EPR can directly achieve this objective.	EPR financing and recycling targets shift waste away from landfills, especially where landfill gate fees reflect true externalities.

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Objective	Achievable under EPR?	Rationale
Increased collection coverage	EPR can directly achieve this objective.	EPR provides long-term funding and performance obligations that expand collection networks.
Improved sorting quality	EPR can directly achieve this objective.	EPR incentivizes investment in material recovery facilities and standardized sorting systems.
Strengthened recycling infrastructure	EPR is a strong enabler, but not fully sufficient on its own.	EPR funds infrastructure indirectly (through stable demand for recycling), but governments often still need to provide land, permits, or co-financing. Infrastructural advancement depends also on willingness of producers/PROs to provide contractual incentives for investment in infrastructure.
Achieving source segregation	EPR contributes significantly but requires complementary policies.	EPR can support awareness and financing of segregated collection, but full compliance requires enforcement by municipalities, education of households and accessibility of additional buckets and bags.

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Objective	Achievable under EPR?	Rationale
Internalizing environmental costs	EPR can directly achieve this objective.	This is the core principle of EPR; costs shift from municipalities and all taxpayers to producers and consumers.
Sustainable financing for waste systems	EPR can directly achieve this objective.	EPR provides a predictable, stable funding mechanism based on market volumes and producer responsibility.
Cost recovery for municipalities	EPR can directly achieve this objective.	Municipalities, if involved in waste management, can be compensated for collection, sorting and providing access to waste, which significantly reduces their financial burden.
Stimulating recycling markets / supply of recyclables	EPR is a strong enabler, but not fully sufficient on its own.	EPR generates consistent flows of recyclable materials, but market stability also depends on commodity prices and supportive policies (e.g., green procurement) and recycling standards (food-grade and skin-contact applications).

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Objective	Achievable under EPR?	Rationale
Driving eco-design	EPR is not a primary driver and cannot deliver meaningful outcomes without strong complementary policies.	EPR can encourage eco-design through fee modulation, but strong regulatory requirements (e.g., recycled content mandates, material and substance bans) are needed for major design shifts.
Creating industrial investment incentives	EPR contributes significantly but requires complementary policies.	EPR may provide sustainable demand for recycled materials giving visibility to investors in infrastructure, but additional financial instruments (grants, tax incentives) may be required.
Improving overall waste system efficiency	EPR is a strong enabler, but not fully sufficient on its own.	EPR pushes for professionalization and transparency of the waste value chain, but municipal governance improvements may also be needed.

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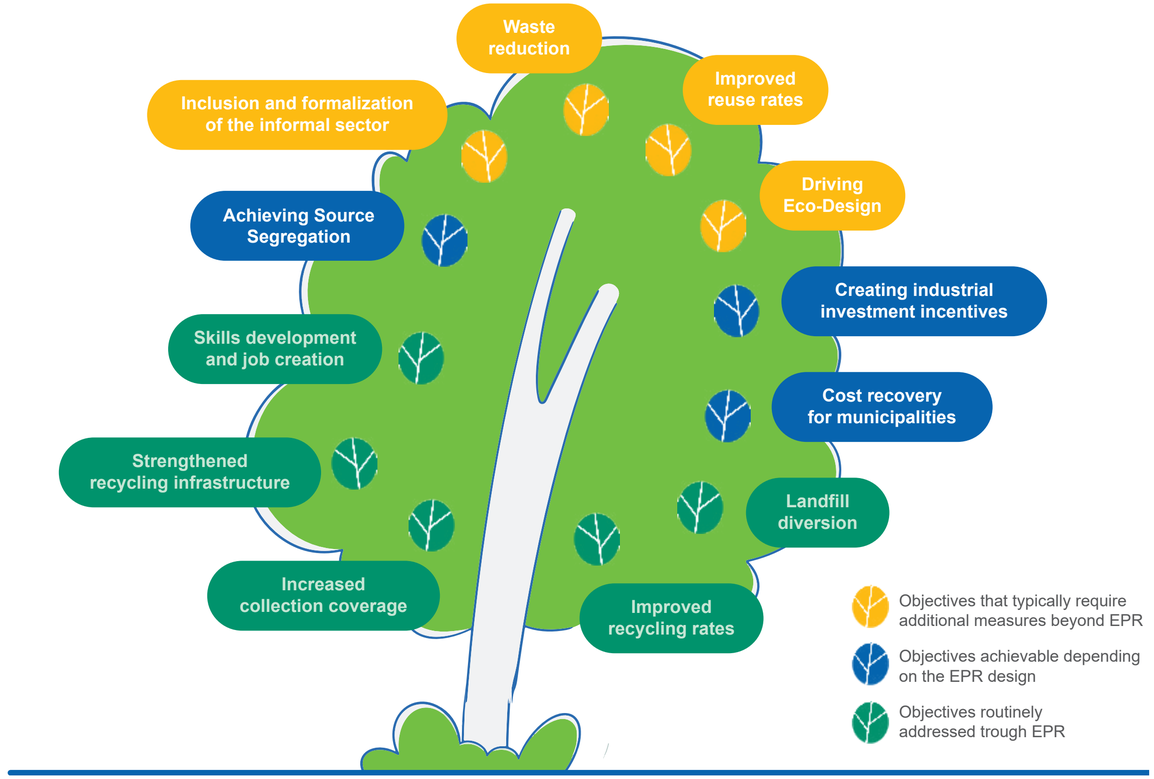
Objective	Achievable under EPR?	Rationale
Inclusion and formalization of the informal sector	EPR contributes significantly but requires complementary policies.	EPR can fund integration programs, contracting and training, but formalization also requires social protection, registration systems and local government engagement. Formalization is not always welcomed by informal waste workers.
Skills development and job creation	EPR is a strong enabler, but not fully sufficient on its own.	EPR-funded expansion of collection, sorting and recycling services creates new jobs, though impacts depend on the scale of the system and national labor conditions.
Reducing community exposure to unsafe waste practices	EPR contributes significantly but requires complementary policies.	EPR improves waste handling and reduces open dumping, but enforcement of environmental and occupational health standards is essential.

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To fully harvest the potential and benefits of EPR, the scheme must be coupled with strong policies and regulations that facilitate the achievement of its objectives. Regulations provide the binding framework within which EPR can operate effectively, setting out the obligations, targets and enforcement mechanisms. Some of these objectives are more readily attainable than others. This distinction is illustrated in the following figure, which shows the "low- and high-hanging fruits": objectives that are routinely addressed through EPR; those that are achievable depending on the EPR design; and those that typically require additional measures beyond EPR.



Country example: EPR objectives in the Philippines

The EPR Act of 2022 in the Philippines contains the core objectives of the EPR system under section 2 (k). Accordingly, EPR has as formal, legal objective to:

- Institutionalize EPR as a core approach to waste management
- Reduce waste, especially plastic packaging Increase recovery and recycling rates
- Encourage design and development of environmentally friendly products
- Promote sustainable consumption and production principles
- Support a circular economy
- Ensure producers take full responsibility for their products' lifecycle, including post-consumer waste

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Examples of measures complementary to EPR together with examples from countries

Click here for the Toolkit

Minimum Recycled Content

- Recycled Content Standards
- Virgin Material Tax
- Substance or Material Ban
- Deposit/ Refund

Minimum Recycled Content

This requirement mandates that products contain a certain percentage of recycled materials. It promotes the use of recycled content, thereby supporting the recycling industry and reducing the demand for virgin materials.



Example 1
Plastic Waste Management Rules in India

Plastic Waste Management (Amendment) Rules, 2022 include a set of differentiated minimum recycled content targets for Rigid Plastics (category I), Flexible Plastics (category II) and Multilayered Plastics containing at least one material other than plastic (category III). The targets in the table below are expressed in % of the materials introduced on the Indian market:

Category	2025-26	2026-27	2027-28	2028-29
Category I	30	40	50	60
Category II	10	10	20	20
Category III	5	5	10	10

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Example 2
Single-Use Plastics Directive (SUPD) in the European Union

The EU's Single-Use Plastics Directive, which was adopted in 2019, includes specific provisions on the recycled content of plastic packaging.
Minimum Recycled Content for PET Bottles:
- By 2025, PET (polyethylene terephthalate) beverage bottles must contain at least 25% recycled plastic.
- By 2030, all plastic beverage bottles must contain at least 30% recycled content.

Packaging and Packaging Waste Regulation (PPWR), in the European Union adopted in 2024, extended recycled content requirements to other plastic packaging types and established the following targets:

2030	By 1 January	2040
30%	for single-use plastic beverage bottles	65%
30%	for contact-sensitive packaging made from PET, with exceptions	50%
10%	for other contact-sensitive plastic packaging (non-PET), with exceptions	25%
35%	for all other plastic packaging	65%

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Recycled Content Standards

These standards foster and complement the minimum content requirement by specifying the quality and type of recycled materials that must be used in products. They ensure that recycled materials meet certain performance criteria, encouraging manufacturers to use high-quality recycled inputs.



Example
DIN SPEC 91446

DIN SPEC 91446 is a standard developed by the German Institute for Standardization (DIN) to enhance the quality and traceability of recycled plastics. This specification provides guidelines for classifying, assessing and labelling recycled plastic materials to ensure they meet specific quality criteria. The aim is to promote the use of recycled plastics in various industries by providing a clear framework for their evaluation and certification.

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Virgin Material Tax

This tax is levied on the extraction or use of virgin materials to dissuade their use and to encourage the use of recycled materials. It aims to reduce the environmental impact associated with raw material extraction and promote resource efficiency.



Example
UK plastic packaging tax

UK HMRC (HM Revenue & Customs) introduced the Plastic Packaging Tax (PPT) on April 1st 2022. Any business that produces or imports plastic packaging into the UK will be liable to pay the tax if the packaging contains less than 30% recycled content. Companies are exempt from paying the tax if they manufacture or import less than 10 tons of plastic packaging in 12 months. The charge from 1 April 2022 was £200 per ton of plastic packaging components and from 1 April 2023 it was £210.82. The tax doesn't apply to transport packaging, also known as tertiary packaging, when it is used to prevent transport or handling damage to several units grouped together.

The tax will offer a clear economic incentive for businesses to use recycled materials in plastic packaging. This creates a higher demand for recycled materials, which in turn will stimulate increased recycling and collection of plastic waste, diverting it from landfills or incineration.

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Substance or Material Ban

This regulation prohibits the use of specific harmful substances or materials in production processes. It helps to minimize environmental and health risks associated with hazardous materials.



Example
Ban on plastic packaging for fresh produce

Since 1 January 2024, a French decree has come into effect stipulating that fruits and vegetables packaged in batches of less than 1.5 kg can no longer be sold wrapped in plastic. This includes items like cucumbers, lemons and oranges, among others. By 2026, the ban will extend to all fruits and vegetables. The ban significantly reduces the amount of plastic waste generated from packaging fruits and vegetables. Yet businesses may face higher initial costs in transitioning to alternative packaging materials.

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Minimum Recycled Content

Recycled Content Standards

Virgin Material Tax

Substance or Material Ban

Deposit/ Refund

Deposit/Refund

Under this system, a refundable deposit is added to the price of a product, which is returned to the consumer when the product is brought back for recycling. It motivates consumers to return products for recycling, reducing litter and increasing recycling rates.



DEPOSIT RETURN SYSTEM

Example 1
Deposit Refund System (Pfand System) Germany

The Pfand system in Germany is a well-established deposit return scheme designed to encourage the recycling of beverage containers. Under this system, consumers pay a small deposit when purchasing bottled or canned drinks (from € 0.10 to € 0.25), which is refunded when they return the empty containers to designated collection points, such as supermarkets or reverse vending machines. This system applies to various types of drink containers, including plastic bottles, glass bottles and aluminum cans.

The Pfand system has significantly increased recycling rates in Germany, reducing litter and promoting environmental sustainability. It not only ensures the proper disposal and recycling of beverage containers but also raises public awareness about the importance of recycling. The DRS can aim at collecting waste products for recycling, or alternatively for refill, as seen in several countries.

Example 2
Beverage Container Return Scheme (BCRS) in Singapore

BCRS was launched in Singapore on April 1, 2026, with a transition period to September 30, 2026. The system is managed by BCRS Ltd., a not-for-profit company licensed by the National Environment Agency (NEA) as the scheme operator. The Scheme will cover more than 1 billion beverage containers annually, allowing Singapore to recover over 16,000 tonnes of material annually. Regulated containers (plastic and metal containers ranging from 150 milliliters to 3 liters) carry a deposit set at SG$ 0.10 (USD 0.08).

A collection network initially comprises 1,070 reverse vending machines with a plan to extend it to 2,000 during the first year of the scheme, across supermarkets and retail outlets, as well as council-managed areas such as public housing properties.

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Further instruments infrequently applied but to be considered are:

Advanced Disposal Fee (ADF)

This fee is charged at the point of sale or production and is intended to cover the future costs of waste management and disposal. It incentivizes consumers and producers to consider the end-of-life impact of products and packaging.



Upstream Combination Tax/Subsidy (UCTS)

This mechanism combines taxes and subsidies to encourage sustainable practices throughout the supply chain. It can involve taxing unsustainable practices while providing subsidies for environmentally friendly actions, thereby promoting overall sustainability.



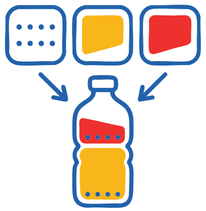
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4.1.3 Stakeholders and Lifecycle Stages Affected

EPR affects all stages of a product's lifecycle and assigns responsibilities to the actors involved. These include producers see sub-section 4.2.2, importers, PROs, retailers, municipalities, the informal sector, recyclers and regulators. This subsection illustrates how EPR is not limited to end-of-life waste management, but rather reshapes decisions and responsibilities across the whole lifecycle. To help stakeholders to transform these roles into operational steps, the Toolkit provides detailed checklists, available here Link to the Toolkit

Design and material selection



EPR begins influencing decisions long before a product reaches the market. At the design and material selection stage, producers must consider recyclability, mono-material packaging, disassembly and the use of recycled content. This shift is already visible in the region: companies in Thailand, Viet Nam and the Philippines are introducing mono-material sachets, paper-based alternatives and rPET bottles in anticipation of, or in response to, EPR requirements.

Distribution and retail



Retailers have a variety of key roles to play. At the distribution and retail stage, retailers may act as compliance gatekeepers: they are then responsible for verifying that the products they purchase and distribute meet EPR requirements, thereby ensuring that only compliant products are put on the market. Retailers also play an important role in education and public awareness: promoting circular practices such as packaging-free dispensing; offering alternatives to plastic bags; and encouraging the use of reusable packaging. As significant users of secondary and tertiary packaging, retailers are not only intermediaries but also consumers of packaging themselves.

This positions them to leverage their purchasing power to source recyclable or low-impact packaging, thereby influencing upstream design and market demand. Retailers selling packaged goods under their own brand should also be required to report their sales data, just as producers do. In countries where take-back schemes such as a Deposit Return System (DRS) exist, retailers may additionally play a role in receiving empty beverage containers and managing deposit collection and refunds.

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Consumption



At the consumption stage, EPR depends heavily on how people interact with used packaging: whether they are expected to sort at source or use return systems and whether they generally comply with waste disposal instructions. Additionally, it is the consumer's choice to favor more sustainably packaged products over others. Since women often make day-to-day purchasing decisions and are more frequently responsible for bringing packaged goods into the home, their needs and convenience must be considered for return schemes. Several stakeholders consulted while developing this Handbook noted that consumer-facing communication remains limited across ASEAN and constitutes a barrier to achieving meaningful increases in recycling.

Consumers are key actors in the EPR system through their consumption decisions and their waste disposal behavior, which will determine to a large extent the volume and sortation quality of waste collected. Therefore, practical measures are required to ensure suitable consumer awareness, information, participation and incentivization to participate actively in the EPR system.

Collection, sorting and recycling



At the collection, sorting and recycling stages, responsibilities shift beyond producers to the assigned operational systems that are financed by them. Waste operators are thus contracted by PROs or by producers directly to collect and treat waste. They are typically expected to ensure waste flow traceability, the validation and documentation of reported volumes, and adequate working conditions for the men and women involved in the waste management.

Consultation feedback shows that overall recycled volumes via formal channels remain limited due to weak segregation at source and insufficient sorting infrastructure. In this sense, formal waste operators can play an important role in contracting informal actors and their associations to gradually achieve both higher recycling rates and formalization. This itself is an important opportunity to improve working and living conditions for women, since women are highly represented in informal recycling activities. By implementing documentation, invoicing and traceability measures on the one hand and ensuring a constant demand at less variable prices on the other, the continued formalization of actors can be achieved.

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Disposal



At the disposal stage, the least favored stage according to the waste hierarchy See section 4.1.1, landfills are directly managed by environmental authorities or entities appointed by them via a concession. Landfilling is the dominant and often the cheapest waste management option, which undermines recycling and EPR effectiveness.

Introducing landfill bans for specific packaging materials or, at a minimum, implementing landfill gate fees are critical policy levers to shift waste flows toward higher-value treatment. Gate fees should be set at levels that do not undercut recycling or recovery costs; otherwise, recyclable packaging continues to flow to landfills. By progressively increasing disposal fees or restricting landfilling of recyclable materials, governments create the economic conditions needed for EPR systems, PROs, and recyclers to operate effectively and for investments in sorting and recycling capacity to become viable.

Actors involved



At the national level, public authorities define the rules that guide the entire packaging value chain, from the moment products are placed on the market to the point where materials are recovered or disposed of. Concretely, federal authorities establish the calculation methods that producers, PROs, recyclers and municipalities must use, ensuring that data reported across the value chain is comparable and traceable.

Municipalities and local governments are also involved throughout the entire value chain. In practice, this includes expanding source-separation systems, facilitating the installation of additional treatment capacity, expanding efforts to audit facilities and establishing minimum operational standards. Their role also extends downstream, as they license and supervise waste operators and are empowered to issue corrective orders, impose penalties or suspend licenses when obligations are not met. Local authorities may also support data collection efforts and contribute to public education and awareness initiatives for residents.

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4.2 Scoping



In the scoping phase, the governments decide what EPR systems should cover and how they could be structured. This subchapter guides policymakers through the process for selecting product categories and defining which actors qualify as producers under the regulation. Emphasis is placed on ensuring broad participation, especially among SMEs and informal actors.

4.2.1 Products under EPR

In the case of **EPR for plastic packaging**, the following scope can be defined by providing explicit and clear answers on the following topics:

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Products or materials in scope

- Products: for instance, food & beverage packaging or FMCG packaging.
- Materials: for instance, rigid plastics or flexible plastics or PET, HDPE, etc.

Plastic packaging usage covered

- Primary packaging: the first layer of packaging that directly contacts the product. It is designed to protect the product and often provides essential information for the consumer.
- Secondary packaging: the packaging that groups together multiple primary packages. It does not directly touch the product but helps in branding, display and logistics.
- Tertiary packaging: the outermost layer used for bulk handling and shipping. It ensures safe transportation and efficient warehousing.
- Service packaging: packaging used in service environments (like restaurants, cafés, or take-away counters) to provide the product to the customer in a convenient and hygienic way.
- Delivery packaging: packaging designed for shipping products directly to consumers, especially in e-commerce or home delivery contexts. It focuses on protection during transit and customer experience upon unboxing.

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4.2.1 Products Under EPR

EPR may go beyond plastic packaging, encompassing not only all packaging materials but also other product streams. The table below presents examples of products included in the EPR scope by various countries and the EU:

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Products subject to EPR in various countries

The Philippines
- Plastic packaging

Singapore
- E-waste (including batteries)
- Beverage containers (Deposit Refund System)

India
- Plastic packaging (with draft EPR rules proposed by the government in 2024 for glass, paper and metal packaging, plus sanitary products, e.g., diapers, napkins, etc.)
- Electrical and electronic equipment
- Batteries (portable, automotive, industrial, EVs)
- Tires

Spain (in addition to products mandated by the EU)
- Cooking oil (separate collection starting from January 2025)
- Under discussion: single-serve coffee capsules

EU (at the regional level)
- Packaging (all materials)
- Electrical and electronic equipment
- Batteries
- Fishing gear
- Textiles (starting from 2028, with a mandate to collect separately starting already from January 2025)

Viet Nam
- All packaging materials (plastic, paper, glass, metal)
- Batteries, accumulators, lubricating oils, inner tubes and tires
- Electrical and electronic equipment
- Vehicles (starting from 2027)

France (in addition to products mandated by the EU)
- Chemicals
- Tires
- End-of-life vehicles (ELVs)
- Furnishings containing electrical parts
- Leisure and sports boats
- Medical devices for self-treatment patients
- Medicines for human use
- Professional packaging
- Professional catering packaging
- Construction products and materials for the building industry
- Toys
- Sports and leisure goods
- DIY and garden products
- Mineral or synthetic oils
- Tobacco products
- Chewing gum
- Single-use sanitary textiles

WARNING Limiting the range of products covered by EPR (e.g., only plastic packaging) may lead to unintended consequences, such as producers moving to non-EPR-covered materials to get around the requirement.

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4.2.2 Producers Under EPR

A functional EPR system for packaging begins with a precise definition of who qualifies as a producer, i.e., an obligated enterprise. Common definitions encompass legal or natural persons that first place on the national market **packaged products** by way of manufacturing or importing. Definitions may include additional persons such as distant sellers established abroad and selling directly to the end user on the national market.

Producers of packaging materials or raw materials are generally excluded from the producer definition, though exceptions apply in some jurisdictions. An exception to this general rule is when service packaging (packaging used in restaurants, cafes or takeaway counters) or packaging materials bought directly by consumers are in scope; in this case, manufacturers and importers of such packaging may be deemed producers, as the sheer number of businesses using such products would be overwhelming for the regulator.

A thorough producer definition is therefore necessary for regulatory clarity and system efficacy in the ASEAN context, where markets are diverse in terms of scale, informality and structure. It is also advisable to consider definitions that can be applied to other non-packaging EPR schemes to ensure consistency.

The "Producer" definition typically includes the following types of obligated entities

Domestic manufacturers of packaged products



Domestic manufacturers of packaged products, businesses that produce packaged goods locally and place them on the national market. They are the most straightforward category, as they maintain control over product design and volume and their operations are already embedded within existing regulatory systems.

Importers



Importers such as distributors, wholesalers and other companies that import packaged products or packaging to pack goods sold to end consumers should be covered because their activities generate waste locally, even if the products originate abroad. Clear obligations for importers prevent loopholes and ensure that goods entering the market bear the same environmental responsibility as those produced domestically, hence establishing a level playing field. Since imports account for a sizable portion of ASEAN markets, the EPR system faces significant free-riding risks, unless importers are explicitly defined as obligated producers and effectively monitored for compliance.

A set of factsheets with definition criteria, threshold options and benchmarking examples can be found in the Toolkit.

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4.2.2 Producers Under EPR

A functional EPR system for packaging begins with a precise definition of who qualifies as a producer, i.e., an obligated enterprise. Common definitions encompass legal or natural persons that first place on the national market **packaged products** by way of manufacturing or importing. Definitions may include additional persons such as distant sellers established abroad and selling directly to the end user on the national market.

Producers of packaging materials or raw materials are generally excluded from the producer definition, though exceptions apply in some jurisdictions. An exception to this general rule is when service packaging (packaging used in restaurants, cafes or takeaway counters) or packaging materials bought directly by consumers are in scope; in this case, manufacturers and importers of such packaging may be deemed producers, as the sheer number of businesses using such products would be overwhelming for the regulator.

A thorough producer definition is therefore necessary for regulatory clarity and system efficacy in the ASEAN context, where markets are diverse in terms of scale, informality and structure. It is also advisable to consider definitions that can be applied to other non-packaging EPR schemes to ensure consistency.

The "Producer" definition typically includes the following types of obligated entities

E-commerce operators and online sellers



E-commerce operators and online sellers, a rapidly growing segment in ASEAN, is increasingly bypassing traditional distribution channels. It covers domestic platform operators and foreign sellers shipping directly to consumers. If not included, a substantial portion of packaging may be exempt from EPR obligations. Regulators could consider assigning responsibility as "deemed producers" to online marketplaces or final delivery/logistics service providers that act as "placing on the market entities", or request them to act as gatekeepers by verifying and mandating compliance of sellers trading over their platforms and using their services for final delivery.

Brand owners



Brand owners are occasionally listed as obligated entities, which refers to companies that own or control a brand sold in the country and have influence over product design, even when manufacturing is outsourced. It is important to note that, since a brand owner is not required to be present in a given country, a domestic representative must be appointed to carry out the obligation. However, this indication may overlap with the remaining types of obligated entities (e.g., manufacturer or importer), causing confusion or doubling of the obligation and charging.

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The "Producer" definition typically includes the following types of obligated entities

Micro, small and medium enterprises (MSMEs)



Micro, small and medium enterprises (MSMEs), as defined in legislation usually separate from EPR acts, make up a large proportion of businesses in ASEAN economies. While they contribute significantly to material flows, their capacities, both financial and administrative, vary widely. MSME obligations must therefore be calibrated carefully to maintain fairness without imposing burdens that could undermine their viability.

Some legislative acts may partially or wholly exclude MSMEs from EPR obligations based on their turnover or put-on-market volumes. While this approach may mitigate public opposition, especially in the initial stage of regulation implementation, setting the threshold too high could result in a substantial quantity of packaging waste escaping obligation. Effective EPR systems recognize that producers do not have equal capacity or market impact. To avoid market distortions and maintain competitiveness, especially for MSMEs and emerging sectors, several design strategies can be applied, such as simplified or exempt reporting or simplified or progressive EPR fee structures (e.g., lower fees for <10 tons placed on the market, flat-rate fees for very small producers or annual lump-sum payments instead of per-ton reporting). It may also be reasonable to consider covering MSMEs by the EPR system at the latter stage of implementation, but with a clear timeframe allowing for better preparation.

A set of factsheets with definition criteria, threshold options and benchmarking examples can be found in the Toolkit.

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4.3 Design



This section provides detailed guidance on the institutional, financial and legal architecture of an EPR system. It shows how to ensure consistency between objectives and design, define obligations, set measurable targets, design financial flows and establish PROs and governance bodies.

4.3.1 Definitions

Additional to precise scoping, clear, consistent and operationally useful definitions are the foundation of a successful EPR system. Ambiguous terminology frequently leads to compliance issues, uneven enforcement and loopholes that jeopardize the system's integrity. Good practices and things to take into account are presented below, while standard definitions and examples of them in use in AMS and EU countries are available in the Toolkit

Good practices on definition formulation: 1/2

1 Avoid ambiguity

Vague or broad terminology leads to inconsistent application among governing agencies, municipalities, producers and waste operators. In addition, the precise definitions should include all relevant actors and materials, such as imports, online sales, composite materials and new packaging types. Clear definitions reduce the possibility of disputes and free-riding. They also enable accurate reporting, target setting and compliance monitoring.

2 Align definitions with current legal frameworks and standards

Definitions should be consistent with the terminology used in relevant national laws and regional frameworks and, whenever possible, with international standards. Where a definition is based on concepts already established in other regulations, such as waste classifications, product standards, or material specifications, it should explicitly reference or draw on those instruments. This ensures regulatory coherence, avoids contradictions and keeps related legislation aligned as it evolves. At the same time, regulators should recognize that existing definitions or regulatory provisions may need to be overhauled when EPR implementation reveals outdated concepts, gaps or inconsistencies (for example, where terminology set years earlier no longer reflects current materials, packaging formats or waste management realities). Revising such definitions ensures that the broader regulatory framework remains accurate, functional and responsive to the needs of the EPR system that is being designed.

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4.3.1 Definitions

Good practices on definition formulation:

3 Ensure technology neutrality

Definitions should not prefer one technology or solution over another. They must describe functional characteristics rather than specific processes in order to enable innovation and avoid premature lock-in to technologies that may become outdated or favor specific groups.

For instance, an obligation may require that packaging waste be 'processed to achieve a defined recycling efficiency or environmental performance outcome,' rather than mandating a specific method such as mechanical recycling, chemical recycling or co-processing.

4 Allow for system evolution

Definitions should be flexible enough to accommodate new packaging types, materials or business models without requiring frequent legislative amendments, but without allowing for potential loopholes (for example, for "green plastics" or plant-based plastics). Including categories such as "other packaging formats as determined by the regulator" allows systems to respond to market developments.

The list of key terms that need to be defined or verified in other regulations

- Producer
- Retailer
- Packaging (and packaging types)
- Plastics
- Recycling
- Collection
- Recyclability
- Recovery
- Waste operator
- Placing on the market (POM)
- Waste and packaging waste
- PRO

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4.3.2 Setting Targets

Clear, evidence-based targets are the cornerstone of an effective EPR system. They provide direction for producers, accountability for compliance systems and predictability for waste operators who are often investors in collection, sorting and recycling infrastructure. In the ASEAN context, where countries differ significantly in waste composition, service coverage and maturity of recycling markets, target setting must balance ambition with feasibility.

1 Baseline analysis: Taking stock of capacities and gaps

1/2

A robust baseline analysis ensures that targets are grounded in the real performance of existing systems. Baseline analysis is built on a literature review, regulations and statistics analysis, stakeholder interviews, workshops, market studies and surveys. The time and effort needed to conduct such an analysis will depend on pre-existing data availability. International development organizations have been known to support this process by commissioning external expertise. This assessment should involve:

Waste generation and composition

Quantifying product volumes Put-On-Market (POM), waste generated and flows through formal and informal channels. Data can be sourced from customs records, industry declarations, municipal waste audits, material flow analysis (MFA) and special surveys. To get a better understanding of the POM volumes, registration and reporting by producers may be mandated a year or two ahead of target setting, as was the case in Singapore for packaging reporting.

Existing collection and recycling performance

Mapping current collection rates, households covered with collection service, material recovery volumes and leakage (landfilling, open burning, dumpsites). Engage with informal sector representatives (through associations, cooperatives, NGOs, etc.) to cross-check their contributions as they are often omitted from official statistics but represent 20–60% of recovered recyclables in many ASEAN countries. Where relevant, the baseline could also assess how women participate in collection and sorting activities (in households as active members deciding and handling day-to-day waste tasks, and in sorting stations as the workforce typically doing manual tasks) to identify constraints and opportunities for improving performance.

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1 Baseline analysis: Taking stock of capacities and gaps

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Infrastructure capacity and technology mix

Assessing availability and performance of:
- Material recovery facilities (MRFs) and aggregators
- Mechanical recycling plants
- Chemical recycling or feedstock recovery facilities (if any)
- Waste-to-Energy, co-processing and refuse-derived fuel (RDF) capacities
- Reuse and refill systems (e.g. deposit-return schemes, refill kiosks if any)

Geographic service coverage

Identifying underserved areas, especially rural or peri-urban regions, islands, or areas with limited transport logistics

Policy and market readiness

Reviewing existing regulations, incentives, standards for secondary materials and market demand for recycled content. The output of the baseline should highlight system gaps, investment needs and achievable performance improvements under EPR funding

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4.3.2 Setting Targets

2 Stakeholder dialogue

Target setting should be informed by structured consultation with:

- National and local governments
- Producers (both large and small) and producer responsibility organizations (PROs), if such already operate
- Waste operators (collectors, aggregators, sorters, and recyclers)
- Informal waste worker representatives
- Civil society and community organizations
- Financial institutions and investors

Dialogue ensures that targets are technically feasible, economically proportionate and socially equitable. Workshops, roundtables and public hearings can be used to validate baseline findings, stress-test proposed targets and identify transition support needs (e.g., transition periods, technology upgrades, formalization pathways for informal workers).

3 Realistic but ambitious targets (SMART)

Targets should follow the SMART principle:

- **S**pecific (e.g., material-specific collection rate)
- **M**easurable (using standardized reporting protocols)
- **A**chievable (based on baseline but forward-looking)
- **R**elevant (aligned with national waste strategies)
- **T**ime-bound (with clear milestones)

4 Phasing

Targets should be phased, e.g., 3–5 years for initial compliance, gradually increasing over 10–15 years, to allow infrastructural ramp-up, behavioral change and market development.

5 International benchmarking

Target benchmarking by ASEAN countries could be based on:

- Regional peers with comparable economic development, similar challenges faced and very recent EPR implementation (e.g., the Philippines, Viet Nam, the revised framework in Indonesia and the emerging EPR system in Thailand)
- Well-functioning, mature EPR systems (e.g., the EU, South Korea, Japan) adjusted for ASEAN conditions

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4.3.2 Setting Targets

6 Waste treatment options

To prevent EPR systems from incentivizing lower-value disposal solutions, EPR targets should prioritize the upper tiers of the waste hierarchy[4] :

Reuse / refill

Arguably highest sustainability: Packaging reuse systems, reverse logistics for durable goods, refill-on-the-go

Recycling

- **Mechanical recycling:** Preferred option for most plastics, metals, glass, paper, with proven environmental benefits
- **Chemical recycling:** Applicable for hard-to-recycle plastics; to be counted as recycling only when producing outputs used as secondary raw materials for plastic production, not fuels

Downcycling/other material recovery

Producing lower-quality outputs; may be counted with lower weighting factors

Thermal recovery/energy recovery/fuel production

Considered recovery but not recycling. Should not substitute for higher-value processes

Landfilling or incineration without energy recovery

Not eligible for target achievement either from the outset of EPR implementation or shortly afterwards

[4]To improve resource efficiency and productivity at all stages of materials lifecycle (extraction, transport, manufacturing, consumption, recovery and disposal), the OECD prioritizes waste management options to minimize environmental impact, ranking them from most to least favorable in the so called “waste hierarchy”. OECD (2025), Environment at a Glance Indicators, OECD Publishing, Paris, https://doi.org/10.1787/ac4b8b89-en

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4.3.2 Setting Targets

7 Inclusion and impact on informal waste workers

In many ASEAN Member States, informal waste workers (collectors, junk shops, aggregators) contribute heavily to material recovery and livelihoods. While these contributions are significant, EPR targets typically focus on material outcomes rather than social indicators. A leapfrogging opportunity arises if target setting incorporates inclusion principles, which may include:

- Recognition of informal sector recovery in baseline data
- Ensuring minimum social safeguards (fair payment, health & safety, non-discrimination, especially gender)
- Defining transition pathways (e.g., contracting informal collectors through PROs, cooperative models, training, provision of personal protective equipment)
- Designing incentive structures that do not displace informal workers but improve their incomes and working conditions

In addition to these safeguards, possible (yet not very common) socio-economic targets can be included:

- Percentage of collectors integrated in PRO-supported schemes
- Increased average income of participating workers
- Access to social protection schemes
- Share of female informal collectors integrated into PRO-supported or contracted schemes
- Representation of women in leadership roles within cooperatives or groups formalized under EPR

These provisions support just transition principles and enhance system performance by building on existing collection networks.

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4.3.2 Setting Targets

8 Addressing service gaps and geographic roll-out

EPR funding may strategically expand collection and sorting services where current municipal systems are insufficient. Targets can reflect:

Service coverage expansion

Percentage of population with access to segregated collection, drop-off points or take-back systems

Geographic rollout milestones

Phased inclusion of provinces, urban vs rural zones or island clusters, aligned with infrastructure development

Performance milestones

Expected increases in collection rates as service coverage expands

Investment signals

Projected volumes to justify new MRFs, baling stations or recycling plants

9 Common types of EPR target 1/2

EPR frameworks may include several interconnected targets related to the EPR objectives set:

Collection targets

Share of POM collected through formal or PRO-verified channels
- May be product-specific (e.g., PET bottles, HDPE containers, other rigid plastic packaging, flexible plastic packaging, multi-material packaging) or material-wide (e.g., plastic packaging, paper, glass, metal)
- Should track both quantity and quality (contamination level of inbound waste through periodical mass balance analysis for instance)
- Alternative collection targets based on arising waste is possible but requires significant effort to assess this amount and maintain the knowledge over time

Recycling targets

Percentage of collected materials that must be recycled at accredited facilities
- May include material-specific sub-targets (e.g., plastics by resin type)

Recovery targets

This applies to materials unsuitable for recycling (e.g., certain multilayer films) and includes energy recovery or co-processing, but with the restriction that recovery is permissible only when reuse or recycling is not technically or economically feasible.

Reuse / Refill targets

May include
- Number or percentage of reusable units placed on the market
- Mandatory share of reusable packaging for selected sectors (e.g., beverages, delivery)
- Amount of packaging avoided through reusable mode
- Targets for return rates in deposit-return schemes

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4.3.2 Setting Targets

9 Common types of EPR target 2/2

EPR frameworks may include several interconnected targets, related to the EPR objectives set:

Recycled content targets

Minimum percentage of recycled content in new products or packaging, considered as product design requirement
- Can stimulate domestic demand for recyclables and stabilize recycling markets
- Must be supported by standards and certification systems and include health and safety requirements, especially in case of contact - sensitive packaging

Footprint reduction targets

Lowering the overall environmental footprint associated with packaging (e.g., carbon intensity, water use or resource and energy consumption)
- Per unit of packaging or ton of POM
- Can complement recycled-content and/or design for recycling requirements
- Is an advanced option for setting targets, requiring a robust calculation method that reflects the local conditions

Material avoidance targets

Phasing out or limiting the use of problematic, non-recyclable, or unnecessary packaging
- Certain single-use plastics, specific multilayer formats or hazardous additives
- Encourage substitution with recyclable, reusable, fewer polymer types or otherwise lower-impact alternatives

A set of factsheets to help set measurable targets is available in the Toolkit.

Click here for the Toolkit

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4.3.3 Operating Models

While designing EPR frameworks, the AMS regulators will have to decide how the EPR obligation will have to be borne by producers and how much flexibility producers will enjoy. In other words, the regulators will have to take a decision on the EPR compliance option or options available:

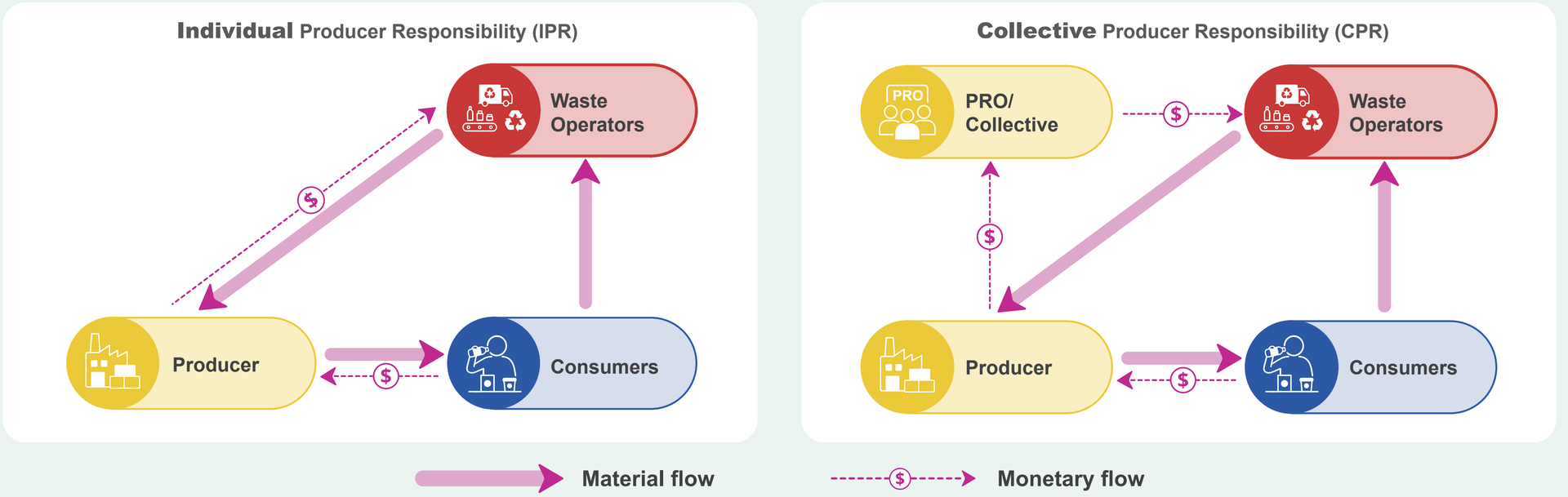
1 **Producer Compliance Model (individual or collective)** | 2 **PRO Operating Model** | 3 **DRS vs. Classic EPR**

1/4

There are two main EPR compliance models: individual producer responsibility (IPR) and collective producer responsibility (CPR).

Main compliance models

Source: Landbell Group



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4.3.3 Operating Models

1 Producer Compliance Model (individual or collective) | 2 PRO Operating Model | 3 DRS vs. Classic EPR

2/4

In **individual producer responsibility**, it is the producer who directly manages its EPR obligation, contracting waste collectors, sorters and recyclers. The main benefit of this approach trickles down to producers: they can decide themselves how best to manage their waste to fulfill the regulatory target in compliance with technical requirements, and they therefore have fuller control over their EPR cost. This flexibility may come at a cost of reduced efficiency due to lack of economies of scale. IPR can also entail cherry-picking, where some producers preempt the easy-to-collect waste, leaving difficult areas to other producers. From a regulator's perspective, however, IPR means an increased number of interfaces for the governing body: enforcing and overseeing a system with potentially thousands of individual producers reporting on their POM and target achievement. This means a very high degree of complexity and significant administrative burden, both for the regulator and also other actors – municipalities, retailers, waste operators and even consumers.

On the other hand, **collective producer responsibility** envisages active participation of intermediaries, i.e., third-party agents such as Collectives and Producer Responsibility Organizations, who collect funds from member producers and disburse them to waste operators. This approach, although reducing the producer's flexibility, offers a few benefits to producers too:

CPR benefits to producers

- They can focus on their core business and not engage in waste management activities
- Economies of scale reduce EPR costs due to collective management
- Logistics and other waste management operations are simplified
- The risk is shared between member producers
- In cases where Collectives/PROs are allowed to do registration and reporting on behalf of their members, producers bear a lower administrative burden
- Collective education and awareness activities are likely to have a higher impact than numerous individual activities

Regulators also benefit from CPR

- Instead of managing thousands of accounts, they oversee just a few collective bodies who do the oversight for them, meaning the regulators deal with less complexity with have better enforcement
- The risk of free-riding is lower as producers are incentivized to participate in the system through collective efforts; PROs may also be given the task of actively identifying free-riders, which, again, outsources part of the enforcement tasks from the regulators
- Waste management done by professional players (PROs) provides a better certainty that waste will be collected and treated properly
- PROs/Collectives collect fees from producers and use this money solely to cover the cost of their services, which means that funds are ring-fenced for waste management activities

It is worth noting that IPR and CPR may coexist in the same jurisdiction, depending on the chosen framework.

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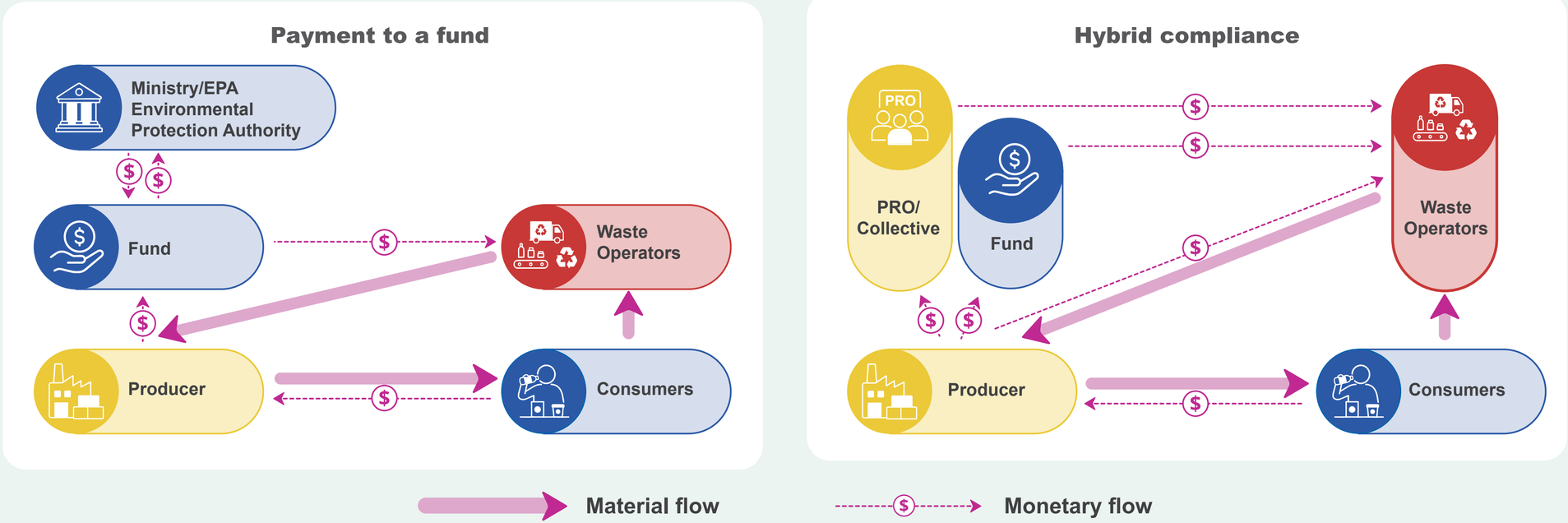
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4.3.3 Operating Models

Beyond collective and individual compliance, some EPR systems allow for fund-based and hybrid models. Under fund-based models, producers pay their contributions directly into environmental funds managed by a ministry or a governmental agency, which then finances collection, recycling and development of infrastructure. In hybrid systems, producers may opt for either some of or all eligible compliance modalities.

Alternative EPR compliance models

Source: Landbell Group



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4.3.3 Operating Models

1 Producer Compliance Model (individual or collective) | 2 PRO Operating Model | 3 DRS vs. Classic EPR

Fund-based models might come with advantages both to producers – such as "pay and forget" simple compliance - and regulators – generating financial flows over which they may have control - but they also have disadvantages. On the positive side, this approach offers regulators predictable revenue streams and stronger central oversight, with a possibility to finance infrastructural development, which could be useful in early-stage EPR. In theory, fund-based models may also contribute to waste being collected in logistically more difficult and less densely populated areas as they are not necessarily driven by market forces (as IPR and CPR are). The main benefit for producers is that compliance is usually easy for them: they only pay their contributions and do not have to prove target achievement via any reporting. On the downside, an environmental fund may have little knowledge and capacity to manage producer waste and, in turn, producers may have very limited influence over system efficiency, costs and design – especially if their contributions are not properly ring-fenced but feed government consolidated funds. Additionally, funds may lack the flexibility required to adjust disbursement to actual needs over time. Finally, they require strong governance and disbursement rules.

Hybrid models offer the highest level of flexibility to producers and can stimulate competition and innovation. In these setups, producers are likely to choose the most cost-effective and carefree solution, which is not necessarily the best option for the environment nor the one most likely to achieve the EPR goals. In addition, hybrid models require regulators to maintain very complex oversight structures to ensure consistent performance and limit free-riding. If not carefully designed, these models may fragment material flows or dilute accountability.

4/4

EPR compliance models in ASEAN countries

Country	Compliance model
Indonesia (IPR and CPR)	• Joining a collective PRO system is not a legally recognized option (although voluntary PROs exist and operate on behalf of producers) • Reporting obligations are currently limited to individual reporting by producers
Philippines (hybrid, but without a fund)	Three compliance options for obligated enterprises allowed: • Establishing an individual EPR program • Complying through a PRO • Forming a collective Combination of all the above is also possible
Viet Nam (hybrid, with a fund)	Four compliance options allowed: • Organizing recycling directly • Hiring a recycling unit • Complying via a third party (PRO) • Making financial contributions to a fund (VEPF) Combination of all the above is also possible
Singapore (CPR - for DRS only)	Mandatory participation in BCRS for beverage producers via a single operator
Thailand (hybrid, with a fund)	Three main compliance options possible: • Participating in a collective system through a PRO • Establishing an individual producer responsibility plan • In case the packaging material is considered difficult to collect for recycling as notified by the Minister, the producer will pay special fee for cleanup to Pollution Control Department

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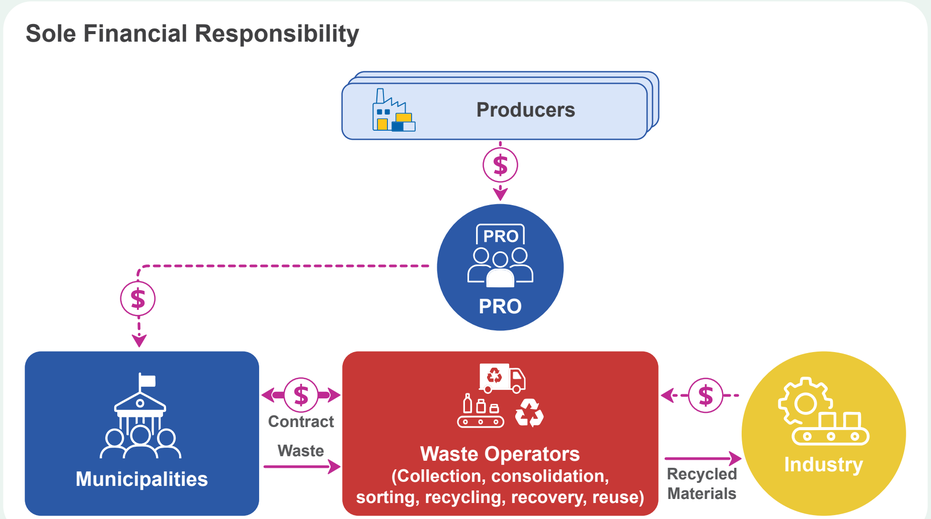
4.3.3 Operating Models

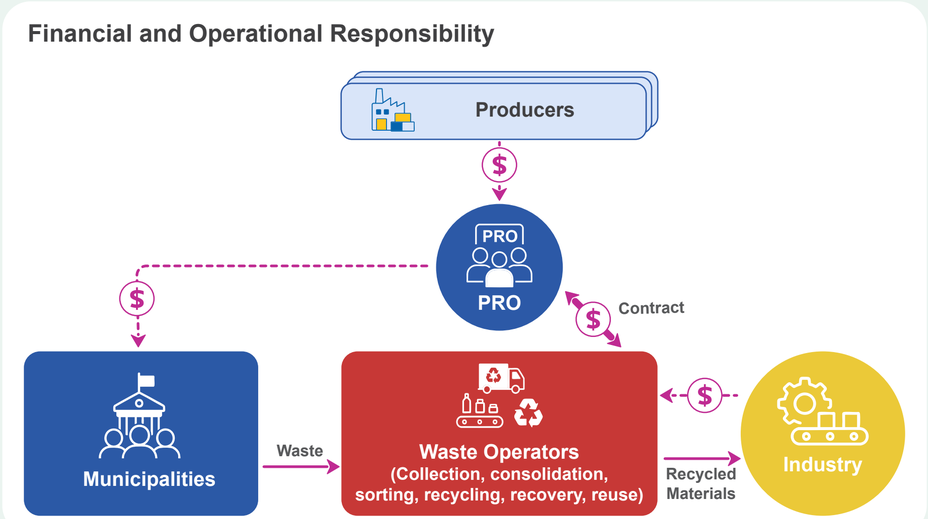
1 Producer Compliance Model | 2 PRO Operating Model | 3 DRS vs. Classic EPR

Subsection 4.3.7 provides a detailed explanation of what PROs are and what roles they can perform. Meanwhile, in the current subsection, the Handbook explains the PRO operating model that can be defined by regulators when designing EPR systems or that shall be decided by PROs themselves. As the operating model depends also on the historical mandate and the willingness and capacity of municipalities to render waste management services, the ultimate choice may also be a derivative of discussions with local governments.

Internationally, two main models have emerged: a sole **financial PRO** and a **financial-and-operational PRO**:

Financial vs. Financial and Operational Responsibility of a PRO





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4.3.3 Operating Models

In the **sole financial model**, PROs limit themselves to collecting EPR fees from producers and redistributing them to municipalities. It is then the municipality who contracts waste operators or delivers services through municipally - owned companies. The PRO acts here as a clearinghouse, ensuring cost reimbursement but not directly engaging in operations. This model comes with advantages and disadvantages:

Advantage and disadvantage of financial PRO models

Main advantages	Main disadvantages
It leverages on existing municipal waste management systems without disrupting them	Due to their limited role, PROs cannot drive efficiency or innovation in collection, sorting and recycling
The governance structure is simple as municipalities maintain control over service delivery	Quality of recycled material depends heavily on municipal practices with very little influence of PROs
For PROs, the advantage lies in minimal operational risk	PRO performance targets, which are the derivative of producer targets mandated by EPR regulations, might potentially be misaligned with municipal capabilities, therefore being harder to achieve

In the **financial and operational model**, the role of PROs is more prominent and the municipalities are less active. In this approach, PROs may still disburse part of EPR fees collected from producers to municipalities (e.g., for accessing the waste pre-collected by municipalities or using public space for collection centers). However, municipalities are typically not in charge of most or all of the reverse chain. Instead, PROs directly contract private or public waste operators, paying for the services they provide. The advantages and disadvantages of this model are the following:

Advantage and disadvantage of financial and operational PRO models

Main advantages	Main disadvantages
PROs retain greater control over performance, quality and costs along the value chain	It might come with higher administrative and operational complexity
It is easier for PROs to optimize logistics and the cost thereof, introduce innovation and improve recyclate quality	Advanced procurement, monitoring, and contracting capacities are required within the PRO
Producer targets and operational decision-making are more aligned	There is a risk of tension between PROs and municipalities if roles are not clearly defined or when local government units are not properly integrated in the system to benefit from it

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4.3.3 Operating Models

Hybrid Operating Model

In addition to these two models, a third one, a hybrid operating model, can be observed globally. Under this approach, PROs contract municipalities for collection and sorting, while sourcing the treatment service from private downstream operators. This model is suitable in countries where municipalities hold the legal mandate for collecting household waste and own collection and sorting infrastructure, but where the private sector is able to deliver recycling services better and cheaper. In this case, PROs reimburse municipalities based on performance or agreed service standards, thereby ensuring access to collected materials, while entering into separate commercial contracts with recyclers to secure processing capacity, quality control and traceability. The hybrid approach presents the following pros and cons:

Advantages and disadvantages of hybrid PRO operating models

Main advantages	Main disadvantages
In this model, municipalities may be involved in frontline waste management while PROs may influence downstream performance more directly, including material quality, market development and achievement of recycling targets	Robust coordination mechanisms, transparent interfaces and clear definitions of responsibilities are required to avoid overlaps, inefficiencies, or gaps between municipal and private-sector roles
The model helps avoid major structural disruptions to household waste management practices while still allowing PROs to introduce performance improvements downstream	Municipalities may prioritize service coverage and collection cost control, while PROs and recyclers require higher material quality and purity to meet recycling targets; without well-designed performance-based contracts or financial incentives, these differing priorities can lead to contamination issues, increased processing costs or inconsistent system performance

In ASEAN, due to the limited and emerging role of PROs, their operating model is unobvious. Therefore, the below factsheet shows where the three different PRO operating models have been applied elsewhere:

PRO operating models worldwide

Financial model	Financial and operational model	Hybrid model
France	Austria	Japan
Italy	Belgium	South Korea
Spain	Germany	
	Chile (emerging system)	

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4.3.3 Operating Models

1 Producer Compliance Model | 2 PRO Operating Model | 3 DRS vs. Classic EPR

"Classic" EPR



In "classic" EPR for packaging, producers finance the collection, sorting and recycling of diverse packaging materials and formats put on the market. The framework relies on producer fees and system-wide cost sharing to deliver waste management services. Under EPR, packaging in scope enters the household waste stream and is collected through municipal or PRO-organized systems, resulting in mixed-material flows that may require more complex sorting and yield lower purity.

Deposit Refund System (DRS)

By contrast, under a Deposit Refund System (DRS), consumers pay a small deposit while purchasing a product, which is refunded when its container is returned to a collection point. DRS is hence a system designed to exclude the packaging in scope from household waste and encourage the return directly by consumers. DRS is particularly effective with homogenous packaging materials such as PET and glass bottles or aluminum cans. DRS offers very high return rates[5], significantly reduces littering and constitutes a reliable feedstock source for high-quality closed-loop recycling.



Classic EPR and DRS are complementary rather than competing instruments. However, compared to classic EPR, DRS requires substantial initial investments into infrastructure, logistics and administration. Even though these costs may be gradually and systematically offset by environmental and economic benefits, the entry barrier is relatively high. In addition, DRS implementation may be hampered in some ASEAN countries by their archipelagic nature - logistical challenges, regional disparities and difficulties in achieving economies of scale may limit the effectiveness of DRS.

Yet, ASEAN consumers, accustomed to selling recyclable packaging to local junk shops, present unique opportunities for DRS implementation. Thorough stakeholder consultation is essential for successful DRS deployment, requiring collaboration among brand owners, retail formats and e-commerce platforms. Ensuring convenience for consumers, including digital wallet payment options for refunds, can further enhance system participation and effectiveness.

[5]Europe's Deposit Return Schemes are among the most effective globally, with return rates often in the upper 90%, led by Germany with 98% (Source: Reloop Global Deposit Book 2022).

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4.3.4 Roles & Responsibilities

This section describes the operational duties of all EPR stakeholders; what each actor must do to fulfill their role in the system and how they coordinate with one another. It does not address oversight or enforcement, which is discussed in **Section 4.3.5 EPR Governance**

An effective EPR system requires a clear allocation of roles and responsibilities among all participants. Ambiguity can lead to poor compliance, underfunding, duplication of effort and suboptimal system performance, both environmental and economic. Key roles and duties of EPR actors are outlined below, including national authorities, producers, Producer Responsibility Organizations (PROs), local government, waste management operators, the informal sector and consumers. ASEAN countries implementing or strengthening EPR frameworks should also identify explicit interfaces between EPR actors. These interfaces determine not only how obligations are implemented but also how responsibility is shared, delegated, monitored and enforced across the system.

The Toolkit expands on the standard role distribution.

Click here for the Toolkit

- **National Authorities**
- **Ministerial Authorities**
- **Producers**
- **PROs**
- **Municipalities and Local Governments**
- **Waste Management Operators**
- **Waste Informal Sector Actors**
- **Consumers**
- **Non-Governmental Organizations (NGOs)**

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National Authorities

National ministries (usually, the Ministry of Environment) or its agencies (e.g., Environment Protection Agency), typically responsible for environment protection, provide the regulatory foundation for EPR. Their responsibilities include:

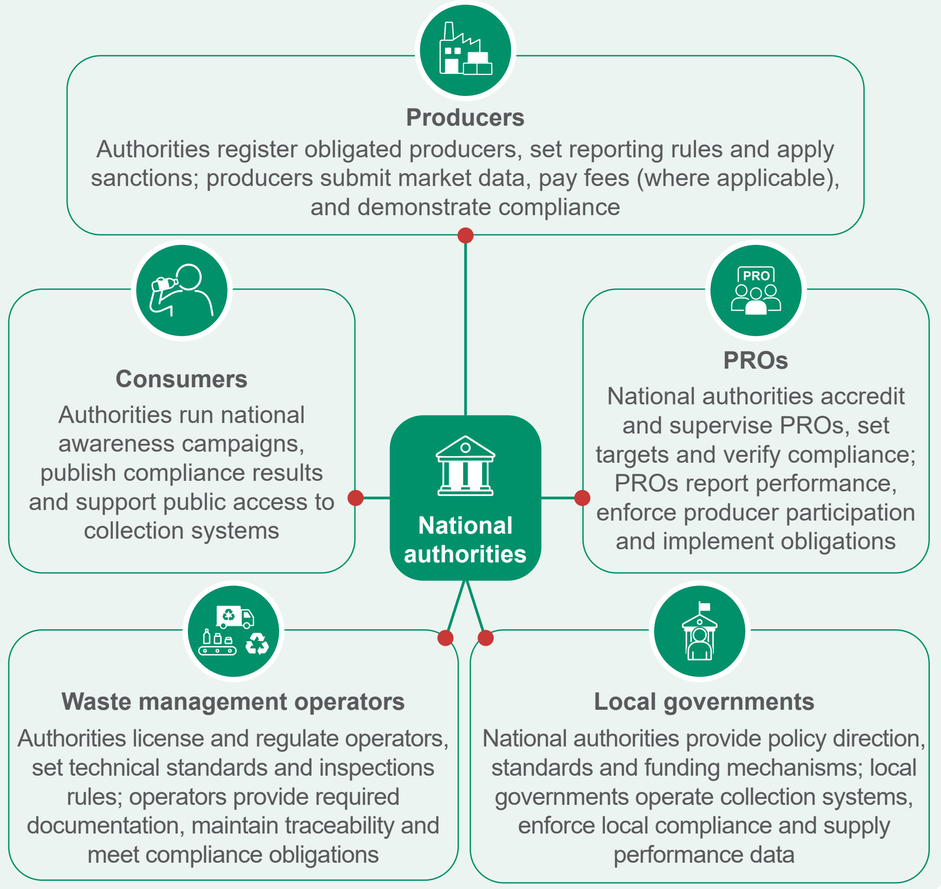
Policy and Regulation
- Develop EPR legislation, implementation rules and technical guidelines
- Define scope: obligated producers, products in scope, fee structures and target-setting approaches
- Adopt, establish or develop standards for collection, sorting, and recycling

Registration and Compliance Control
- Manage national registers for producers and PROs
- Set accreditation requirements for recyclers and auditors
- Monitor compliance and enforce penalties for non-compliance

Data and Transparency
- Operate national EPR information systems (POM data, collection/recycling results)
- Publish verified system-wide performance reports

Coordination with Municipalities
- Provide guidance and minimum service standards for local governments
- Develop national frameworks for EPR–LGU cost-sharing arrangements

Institutional interfaces between national authorities and other actors



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Ministerial Authorities

Ministry of Economy, Ministry of Trade and Industry, Ministry of Commerce (or equivalent)

These ministries oversee the interests of both the upstream and downstream actors. Different sectors would have their agencies or associations that are lobbying for their interests. They also represent the retail sector, which plays a key role as the point of sale where products are ultimately placed on the market

Ministry of Local Development, Ministry of Local Government (or equivalent)

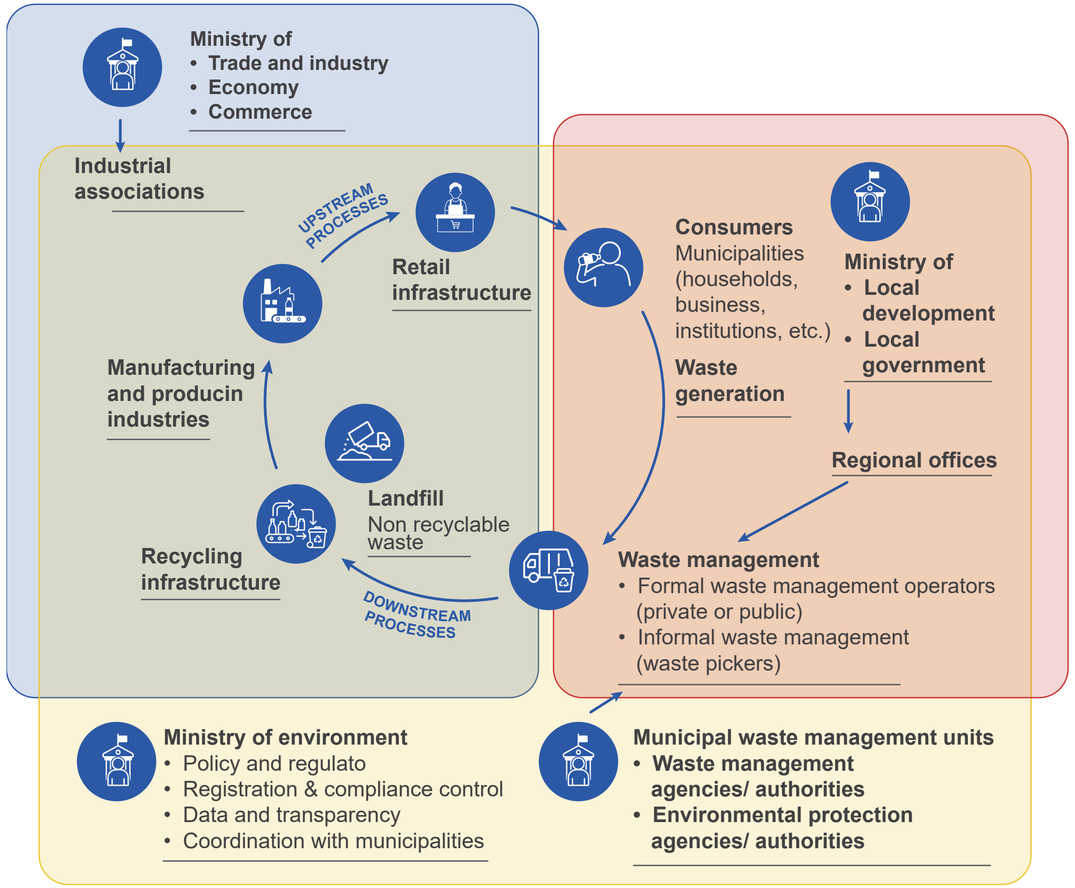
These ministries oversee activities at the local level by supporting municipalities and local governments. These operations involve waste separation, waste collection and awareness and educational campaigns

Ministry of Finance

The ministry oversees the financial and regulatory aspects that affect the market and waste management in particular. It is responsible for designing taxes and levies that may influence the costs associated with waste management, thus impacting the behavior of producers and consumers. The Ministry also ring-fences and manages special purpose funds, such as a recycling fund, which can be used to support recycling infrastructure, research and development and other waste management activities.

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Example of roles and responsibilities public actors could have in a setup



The following figure displays an example of what role sharing setup within an EPR scheme could look like.

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Producers

Product manufacturers, but usually importers as well (commonly under the name Obligated Entities), are responsible for financing and ensuring the achievement of EPR targets (for details on the definition see section 4.2.2. Key responsibilities include:

Registration and reporting
- Registering with national EPR authorities
- Submitting annual POM data and financing contributions

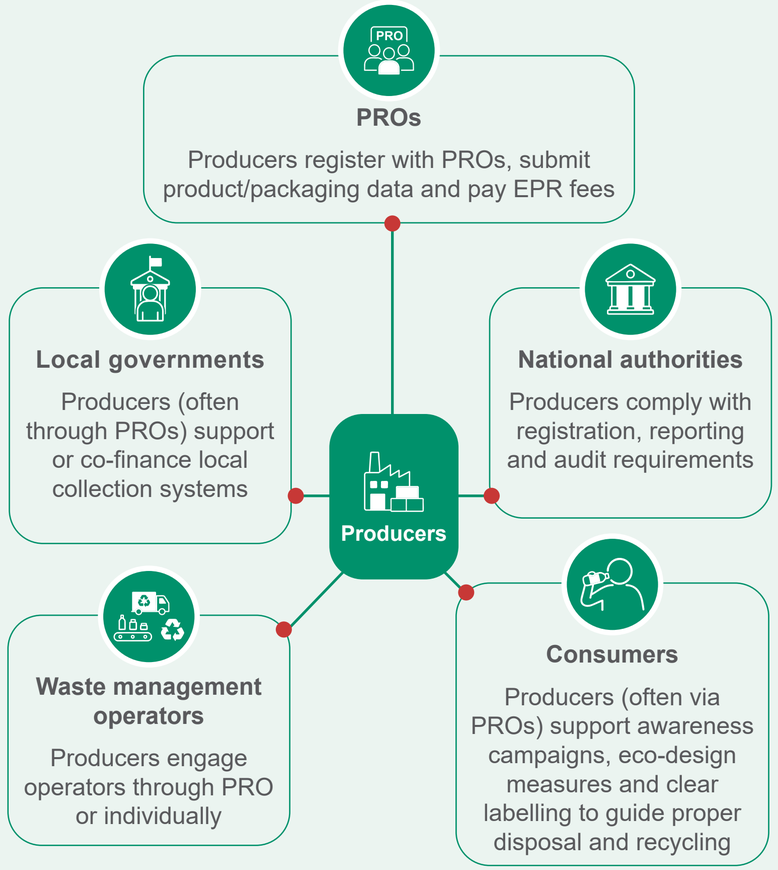
Meeting collection, recycling and other performance targets
- Achieving targets either individually (“individual compliance scheme”) or through collective compliance (typically via a PRO)
- Ensuring their products are recyclable/recoverable in line with waste hierarchy principles

Fee payment and financial responsibility
- Paying EPR fees that reflect product characteristics and recycling costs
- Ensuring financial contributions cover system costs transparently and predictably

Product design improvements
- Implementing design-for-recycling, lightweighting, reuse, refill and recycled content measures
- Reporting on eco-design progress if required in national regulations

Procurement and contracting
- Contracting PROs (when participating collectively) or waste operators (for individual systems)
- Ensuring contracted entities achieve required material quality and performance metrics

Institutional interfaces between producers and other actors



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Producer Responsibility Organizations (PROs)

PROs are entities responsible for collectively fulfillling producers' EPR obligations. Their roles typically include:

Operational management of the EPR system
- Planning and financing the collection, sorting and recycling network
- Procuring services from municipal partners, waste operators and recyclers

Fee collection and financial management
- Collecting EPR fees from member producers and managing them transparently
- Maintaining cost-effectiveness and equitable fee structures across producer categories

Performance monitoring and reporting
- Tracking volumes collected, recycled and recovered
- Submitting verified annual performance reports to authorities

Governance and oversight
- Operating under a transparent, inclusive governance model with producer representation
- Avoiding conflicts of interest through strict board rules and independent auditing

Stakeholder engagement
- Coordinating with municipalities, waste operator associations, informal worker groups and recyclers
- Implementing training, capacity-building and communication campaigns

Ensuring environmental integrity
- Prioritizing high-value recycling options and discouraging low-value disposal
- Implementing traceability systems to prevent fraud and double counting

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Institutional interfaces between PROs and other actors

Government — PROs
The government sets targets, accredits PROs and oversees compliance, while PROs report performance data, verify producer compliance and coordinate implementation

Producers — PROs
(interfaces depends on regulation) Producers join and register with PROs, pay fees, submit data on placed-on-market volumes; PROs plan and finance collection and recycling on their behalf

Local Governments — PROs
Local governments coordinate waste management infrastructure, provide access to collection systems and enforce local regulations; PROs finance or co-finance collection operations, support capacity-building and integrate local systems into national EPR implementation

Producers — Waste management operators
Producers engage operators through PRO or individually; operators deliver collection and recycling services needed to fulfill producer obligations

PROs — Informal sector (where applicable)
PROs facilitate integration of informal collectors through registration, service agreements and training, while informal actors supply collection services and material flows. PROs may provide training, PPE and price stabilization mechanisms

PROs — Consumers PROs
run awareness campaigns and provide information on collection schemes; consumers participate by returning waste through designated channels

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Municipalities and Local Governments

Local governments may be crucial operational partners in EPR systems, especially where municipal waste systems are managed at the local level. They can either be service providers (through municipal waste departments) or regulators/enablers (facilitating private or cooperative operators), depending on the national regulatory requirements. Their primary responsibilities include:

Waste service provision
- Organize local waste collection and transport systems
- Maintain or operate Material Recovery Facilities (MRFs), transfer stations, or local sorting infrastructure
- Provide access to waste streams for PROs and contracted operators

Collaboration with PROs
- Enter into service-level agreements (SLAs) with PROs for co-financing and operational coordination
- Facilitate segregated collection systems where required by national EPR rules (e.g., separate recyclables, return points)
- Support localized campaigns to improve source separation and reduce contamination

Data reporting
- Provide waste quantity and composition data to national authorities or PROs, where applicable
- Support verification of claimed collection and recycling volumes

Local enforcement
- Enforce waste segregation rules, littering laws and local ordinances that support EPR compliance

Support for informal sector integration
- Facilitate cooperative models, registration, training and provision of working space for informal collectors
- Help integrate waste pickers into municipal or PRO-supported recycling activities

Community engagement
- Undertake public education and awareness programs on source segregation, reuse and return systems

Institutional interfaces between local governments and other actors

Local governments — National authorities
Local governments Implement national waste regulations, provide operational data and support enforcement; national authorities set standards, targets and oversight mechanisms

Local governments — PROs
Local governments provide access to collection systems, facilities and service areas; PROs finance or co-finance collection, integrate local systems into national EPR operations and share performance data

Local governments — Waste management operators
Local governments may license, supervise and sometimes contract operators; operators deliver collection, transport and processing services aligned with local and EPR requirements

Local governments — Informal sector
Local governments may facilitate registration, formalization and safe working conditions; informal actors provide valuable collection and sorting services within regulated frameworks. Local governments can additionally allocate workspaces (e.g. sorting areas, material drop-off points) and support the formation of cooperatives

Local governments — Consumers
Local governments manage public collection points, run local awareness campaigns and enforce rules on segregation and proper disposal; consumers participate in the collection system

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Waste Management Operators

This group comprises waste collectors, transporters, sorting facilities, recyclers, and co-processing plants that form the operational core of EPR systems. Their main responsibilities include:

Service delivery in compliance with standards
- Delivering collection, sorting and recycling services contracted by PROs or municipalities
- Meeting minimum quality standards (e.g., contamination limits, bale specifications)

Accurate data reporting
- Reporting collected and processed volumes through verified weighbridge or digital monitoring systems
- Cooperating with audits and inspections

Occupational safety and environmental compliance
- Ensuring safe working conditions, appropriate PPE and regulated facility operations
- Complying with environmental permits, emission standards and responsible residual disposal

Cooperation with informal workers
- Where possible, integrating informal collectors and aggregators through partnerships, cooperatives, or subcontracting

Institutional interfaces between waste management operators and other actors

Waste operators — PROs
Operators are contracted by PROs to provide collection, sorting and recycling services; PROs set performance requirements and require traceability and data reporting

Waste operators — National authorities
Operators obtain licenses, comply with technical standards and undergo inspections; national authorities regulate performance, environmental compliance and reporting

Waste operators — Local governments
Operators provide operational services and report local performance data; local governments oversee daily operations, designate service areas and monitor compliance with local waste bylaws

Waste operators — Producers (directly or via PROs)
Operators provide recycling outputs and documentation that demonstrate producer compliance; producers (through PROs) finance the contracted services

Waste operators — Informal sector
Operators may cooperate through subcontracting or integration schemes; informal actors supply collected materials and benefit from improved working conditions and formalization pathways

Waste operators — Consumers
Operators interact with households and businesses through collection services, ensuring proper segregation, timely collection and accessible disposal points

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Waste Informal Sector Actors

Depending on the regulations, the definition may include waste pickers, junk shops, waste collectors and aggregators, who play a significant role in recyclable material recovery in ASEAN. Their inclusion in the EPR system strengthens social equity, system efficiency and transparency. Their responsibilities within an EPR system, depending on the level of integration, may include:

- Collecting and sorting materials according to agreed specifications
- Participating in training programs for quality improvements and safety
- Reporting material flows through easily acceptable, simplified tools (e.g., mobile apps, cooperative reporting) that support traceability
- Complying with basic health, safety and environmental requirements once part of formalized schemes
- Impeding the participation of children in waste management activities

Institutional Interfaces between the informal and formal sectors

The informal sector interacts with multiple EPR actors by providing critical collection and sorting services. Local governments regulate their operations and promote formalization, whereas national governments establish broad recognition and formalization policies and safeguards. Waste management operators frequently cooperate with or purchase materials from informal actors to increase recovery rates. PROs can integrate informal workers through registration, contracting and training, as well as support their participation through funded inclusion programs or guarantee purchase arrangements (with semi-formal associations, rather than individual workers).

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Consumers

Although they play an indirect role, consumers are crucial to the functioning of the system. Governments and PROs should run public education campaigns to increase consumer participation and influence consumer behavior.

Their major role is:

- Participating in source segregation or return systems (e.g., deposit-return).
- Using reverse logistics points or drop-off centers.
- Reusing or returning reusable packaging.
- Supporting demand for recycled-content products.

Institutional interfaces between consumers and other actors

Consumers play a critical role in EPR systems by properly segregating waste, returning products and packaging through designated channels and responding to information provided by producers, PROs and government authorities. They interact with local governments and waste operators through collection services and compliance with local rules, while national authorities influence consumer behavior through regulations and awareness campaigns

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Non-Governmental Organizations (NGOs)

Non-governmental organizations (NGOs) play a supportive but significant role in EPR systems, particularly in ASEAN where institutional capacity and public awareness may still be developing. NGOs contribute to EPR systems but they do not hold any formal compliance obligations. Their main roles and responsibilities encompass:

Awareness and education:

Driving social and behavior change (e.g., conducting anti-littering campaigns, educating on source segregation, supporting producer and retailer awareness)

Capacity building:

Roviding technical assistance and training on EPR implementation and waste management practices to local communities, local governments and smaller businesses

Informal sector integration:

Facilitating organization, training and integration of waste pickers and cooperatives; supporting inclusion models with PROs and municipalities; supporting equipment acquisition (e.g., collection carts) and distribution of personal protection equipment

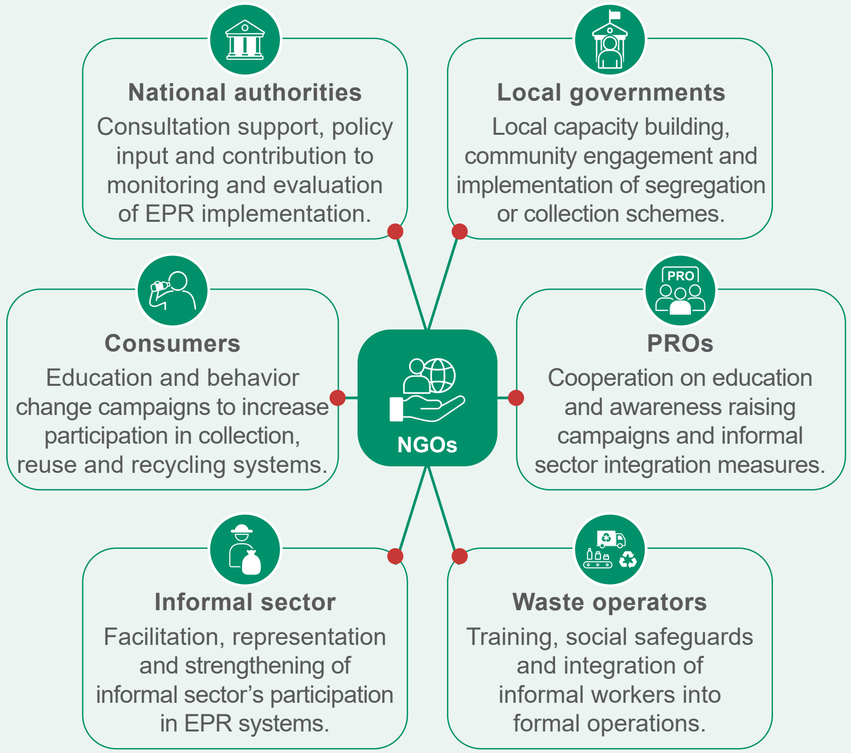
Monitoring and advocacy:

Acting as independent observers of the EPR system and reporting on its performance, promoting transparency and advocating for improved environmental and social standards and outcomes

Pilot projects and innovation:

Testing waste collection models, reuse systems, or community-based recycling approaches that can later be scaled within EPR frameworks

Institutional interfaces between NGOs and EPR other actors



Overall, NGOs act as enablers and connectors, helping bridge gaps between formal institutions, the private sector and communities, and ensuring that EPR systems are inclusive, transparent and socially responsive.

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4.3.5 EPR Governance

While the previous section describes the operational duties of each actor, this section describes who monitors these duties, how compliance is checked and what institutional arrangements are required for transparency and system integrity.

A solid governance architecture is necessary to ensure that the EPR system is running as intended. Aspects that may require oversight include:

- **Producer registration and reporting**, including obligations to declare product volumes, packaging weight, material categories, and placed-on-market data.
- **Approval, licensing and monitoring** of PROs, including their governance structures, business plans, fee schedules and operational capacity.
- **Performance monitoring**, through national targets
- **Financial supervision**, including verification that producer fees are used only for allowable costs, are not discriminating (except in the case of modulated fees) and that PROs maintain transparent, auditable accounts.
- **Waste operators' compliance with applicable standards** and with documentation requirements to avoid double-counting of waste collected and treated.

This is an overview of expected outcomes of the governance framework per stakeholder group; the Toolkit will provide a list of governance stakeholders along with a list of relevant topics for each of them and a checklist for coordination body/clearinghouse requirements:

Click here for the Toolkit

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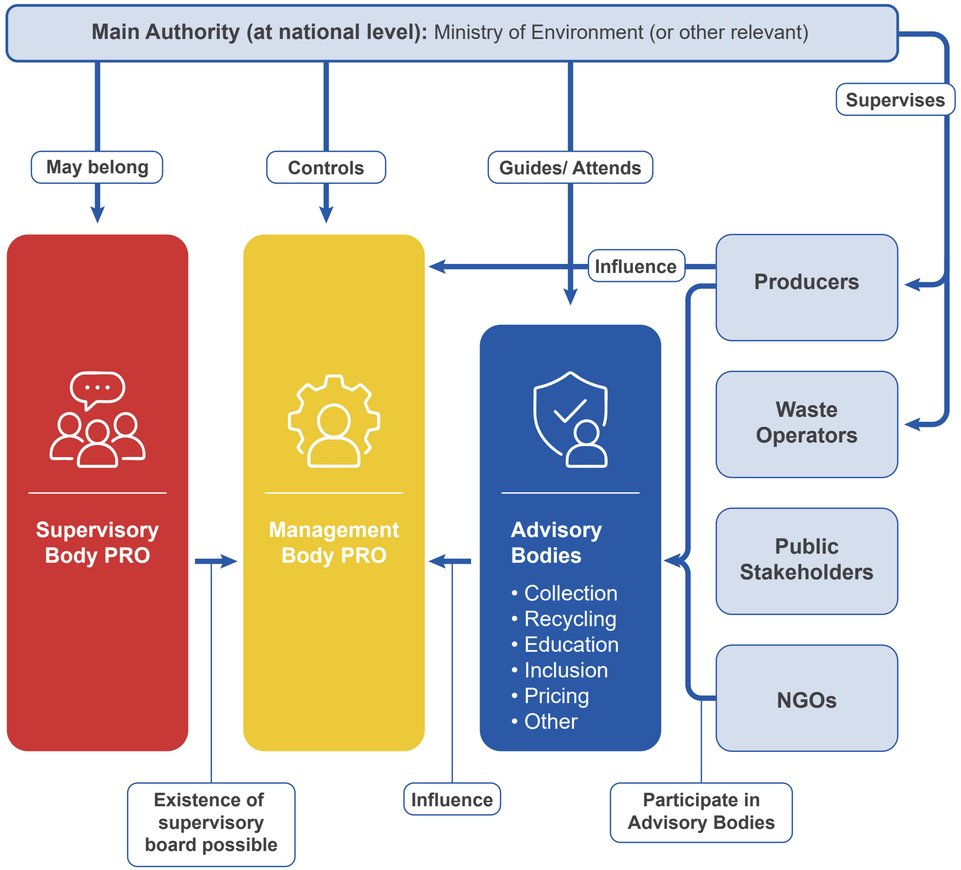
4.3.5 EPR Governance

Oversight is typically the remit of existing government bodies such as ministries responsible for the environment together with environment protection authorities and, potentially, ad-hoc bodies established solely for the supervision of the EPR system. Governance may also include the participation of additional government bodies, for instance those in charge of commerce, and industry and local authorities. Civil society may be invited to join in on a consultative level.

In a nutshell EPR governance takes place on three distinct levels:

- Regulatory oversight, typically under the responsibility of the ministry or ministries, or agency in charge.
- Corporate oversight (e.g. via supervisory bodies), where owners of the EPR systems apply oversight over the management bodies of the PROs.In some countries, the regulatory authority also appoints a representative to sit on its behalf in the supervisory body.
- Participative governance, where stakeholders such as producers, waste operators, local authorities and civil society can influence the EPR system by taking part in advisory bodies.

National authority governance reach and interactions with other bodies



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4.3.5 EPR Governance

The factsheet below presents national bodies in charge of EPR in selected ASEAN countries:

EPR Governance in selected ASEAN countries

Country	Body in charge of EPR	Other public bodies involved
Indonesia	Ministry of Environment (KLH)	Line ministries (support for drafting EPR regulation)
Malaysia	Ministry of Housing and Local Government (KPKT)	• Ministry of Natural Resources and Environmental Sustainability (NRES) • Ministry of Investment, Trade and Industry (MITI)
Philippines	Department of Environment and Natural Resources (DENR)	• Environment Management Bureau (EMB) within DENR • National Solid Waste Management Commission (NSWMC) • National Ecology Center (NEC)
Singapore	National Environment Agency	Ministry of Sustainability and the Environment (MSE)
Thailand	Ministry of Natural Resources and Environment (MNRE)	• Pollution Control Department • Committee on Sustainable Packaging Management Policy • Committee on Sustainable Packaging Management Administration
Viet Nam	Ministry of Agriculture and Environment	• National EPR Council • EPR Office

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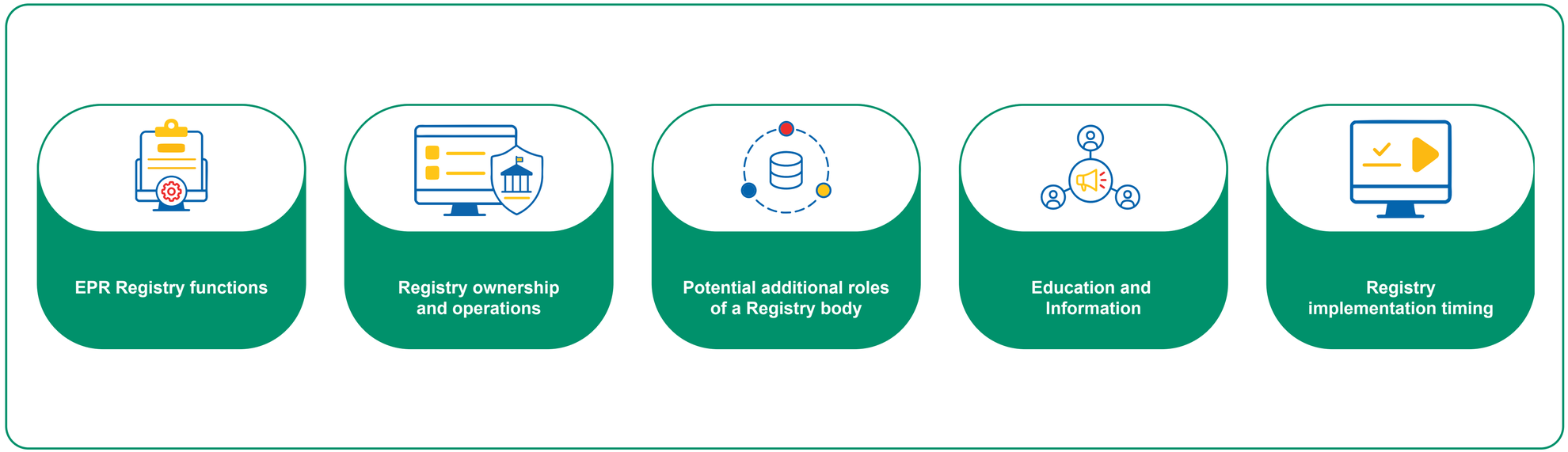
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4.3.6 EPR Registry

Efficient EPR systems rely on trustworthy market data. The purpose of an EPR registry is to provide a reliable insight into the quantity of products and packaging materials that enter and exit the market. This data is indispensable for grasping the initial EPR landscape, designing the system, determining EPR fees and adjusting them if needed.

An EPR registry identifies and monitors obligated companies, giving authorities a (digital) tool to support compliance monitoring and enforcement with EPR obligations. By promoting transparency in market participation, the registry also establishes a level-playing field and enables the detection of free-riders. Through the use of a registry, it becomes more feasible to detect free riders and enforce compliance see details in subsection 4.6.3
It is possible to have separate registries for different waste streams (e.g. packaging and e-waste).

The Toolkit provides factsheets for the basics of registry, scope, models, financing, organizational structure, and a HR requirements and simple template for terms of reference to take the first procurement steps.



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EPR Registry Functions

1 Registration of producers

The registry of producers will include any producer under the regulatory producer definition, i.e. manufacturers, importers, distant sellers, etc.

The obligation to register can be applicable to all producers or select producer categories, for instance over a certain revenue threshold or Put-On-Market volume in the previous year. The registration of producers will be applicable to producers designated as obligated producers under EPR regulation.

Regulations need to specify clearly who is mandated to register. If exemptions from registration obligation are foreseen, they have to be well delineated. Typical exemptions pertain to company size (revenue, tonnage of products put on the market, tonnage of waste processed).

For instance, in the Philippines, MSMEs are excluded from the obligation to register and report.

While some entities may be required to register, it is not identical to reporting obligation. In case of exemptions, the regulatory framework has to specify which of the registered actors are obligated to report, what they have to report and at what frequency.

2 Registration of waste operators

The EPR registry may also include companies conducting waste management activities. In this case, the registry can list waste operators, classifying them according to processes performed in the waste management chain, for instance:

- Waste collection
- Waste treatment (sorting, repair, reuse, recycling, recovery, landfilling, export and other forms of end-of-life treatment)

The above allows to periodically monitor waste records under each type of activity. Such data can then be compared with Put-On-Market data and allow for the calculation of ratios, such as the collection rate and recycling rate.

Waste operators – or PROs - may also participate in indirect registration of informal workers, as direct registration might be too much of an administrative burden for the informal sector.

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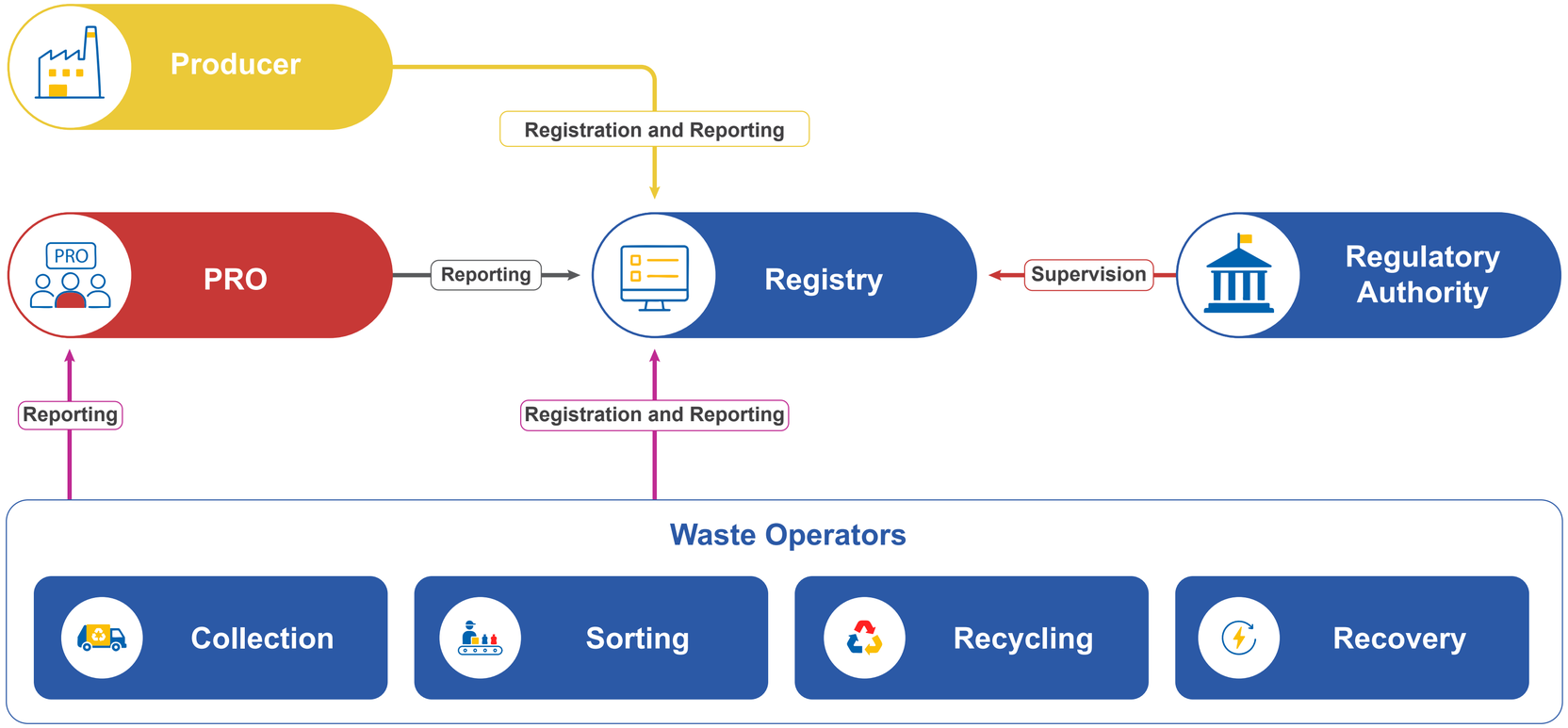
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3 Registration of PROs

PROs may be required to register, especially if there is more than one PRO operating in a given market. The registry then provides an overview of PROs acting on the market by recording periodically the volumes handled by them on behalf of producers and contracted by them to waste operators.

Typical material, financial and data flows between actors of the EPR registry



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Registry Ownership and Operations

Ownership and operation of the registry is commonly the responsibility of a public body, such as in the Philippines where the future EPR portal will be operated by DENR-EMB. Other options exist, as seen in other regions. Alternatively, the registry can be a dedicated private legal entity acting independently from its founders or shareholders to ensure neutrality.

Factors affecting the choice of ownership and control include the need to best achieve the protection of sensitive data (such as quantities put on the market), which must be managed confidentially. The decision on selecting the right operator has to be based on which of the above bodies can provide the best data protection.

EPR registry in Nigeria

In Nigeria, through a multi-stakeholder dialogue process, it was agreed that the registry for e-waste should be operated by a third party. In early 2024, E-waste Producer Responsibility Organization Nigeria (EPRON) launched a tender “to subcontract the management of the registry, which is also known as the Blackbox, to a licensed, regulated financial organization with demonstrated experience in consultancy, assurance and certification, software management, for managing confidential customer data and records and/or confidentially working with sensitive industry trade data”[6].

[6]EPRON, Request for Proposal to Demonstrate Competence to Serve as an EPR IT System (Blackbox) Operator



Potential Additional Roles of A Registry Body

Beside the core functions of registration and declaration, registry bodies may also be vested with additional powers. These relate to the smooth functioning of the EPR system. The activities described below may also be assigned to an entity separate from the registry entity: a **coordination center** or a **clearinghouse.**

1. **Coordination (of activities, of access to waste streams)**
2. **Balancing and settlement of obligations (clearinghouse function)**
3. **Audits and enforcement**

See next page for details

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1 Coordination

Coordination of PRO actions ensures an equitable service delivery over the national territory and prevention of cherry-picking. There are various ways to implement such coordination, but, in essence, it consists of allocating to each PRO or obligated enterprise an access to waste streams that is proportional to their need and balanced in terms of operational difficulty and affordability.

It can be a fixed territorial allocation to a PRO over an indefinite period, or a dynamic assignment of individual waste pick-up requests driven by an algorithm that factors in producer market share and past collections.

In some countries, the coordination function is fulfilled by a coordination body independent from the registry. It may also act as a clearinghouse.

2 Balancing and settlement of obligations (clearinghouse function)

Whether or not a coordination mechanism is in force, the purpose of a balancing or clearing function is to enable producers or PROs with excess performance in relation to the target achievement to settle their excess tonnage with producers and PROs showing a collection deficit in relation to their obligation.

The balancing can be strictly financial through the sale and purchase of tons of waste or of waste treatment certificates, or via reallocation of collection points or collection territories, or a combination of all above.

In strictly outcome-based systems, where producers are only expected to acquire waste treatment certificates, such balancing is not necessary, unless the intention is to have all producers actually contributing proportionally to their market share.

Such a system is in place in the Philippines, where obligated enterprises must demonstrate via the acquisition and reporting of Waste Diversion Certificates that they have fulfilled their obligation.

In some countries, the clearing function is fulfilled by a clearinghouse independent from the registry. It may also act as the coordination body.

3 Audits and Enforcement

Some registries are empowered to commission audits and issue penalties in case of non-compliance. There is currently no example to report in ASEAN.

Audits and enforcement in India

In India, upon successful registration, Producers, Importers and Brand Owners (PIBOs) and Plastic Waste Processors (PWPs) receive a certificate of registration that is issued on the Central Pollution Control Board's (CPCB) portal.

Physical audit of the PWP must be completed by the local control board (State Pollution Control Boards/ Pollution Control Committees) within 30 days of registration being granted. The PWP is allowed to issue EPR certificates to PIBOs only after the audit.

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Education and Information

In EPR systems where large numbers of obligated enterprises and PROs are required to dedicate resources to education and information, it can be beneficial to coordinate messages, actions and expenditure for optimal impact and clarity. Necessary funds can be pooled from obligated enterprises and PROs, while the responsibility for the campaign remains with the central body.



Registry Implementation Timing

The registry is crucial to provide the regulator with the data necessary to monitor the EPR system performance and for effective enforcement. It offers visibility over the obligated enterprises and the weight of materials placed on the market that will eventually have to be collected and treated.

For this reason, it is advisable to consider registry as one of the first implementation steps of EPR.

Producer registrys: Singapore, France and Germany see next page

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Producer registrys: Singapore, France and Germany

Singapore

- The reporting system for packaging, the Waste and Resource Management System (WRMS), is public, operated by NEA
- The mandatory packaging reporting scheme was implemented in 2021
- The following packaging materials have to be reported by producers
  - Composite
  - Glass
  - Metal
  - Paper
  - Plastic
  - Wood
  - Others (Carrier bags, biodegradable/compostable, oxo-degradable/oxo-biodegradable)

France

- SYDEREP (Système déclaratif des filières REP), the French EPR registry of producers and waste operators, is a public body that operates under the responsibility of ADEME – Agence de l'environnement et de la maîtrise de l'énergie (Environment and energy control agency)
- ADEME oversees all EPR systems in France, not only packaging, therefore SYDEREP is a multi-stream registry, gathering data on the following product categories
  - Electrical and electronic equipment (EEE)
  - Fluorinated gases
  - Batteries and accumulators
  - Tires
  - End-of-life vehicles (ELVs)
  - Furniture
  - Packaging
  - Papers

Germany

- Germany has a separate registry for packaging, named LUCID. It is operated by a foundation and a special purpose vehicle that was established by producers but is an independent body not governed by them, Zentrale Stelle Verpackungsregister (Central Agency Packaging Registry – ZSVR)
- LUCID gathers data from producers only – waste operators are not subject to any registration obligation
- LUCID registers producers marketing their products in the following packaging materials
  - Glass
  - Ferrous metals
  - Plastics
  - Other composite packaging
  - Paper/ paperboard/ cardboard
  - Aluminum
  - Beverage cartons
  - Other materials

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4.3.7 Producer Responsibility Organization (PRO)



Producer Responsibility Organizations (PROs) may be the most common vehicle for the collective fulfilllment of producer obligations.

Established as legal entities under various formats, PROs manage the collective obligation of producers, such as managing the collection and treatment of waste and running education and awareness campaigns.

PROs may offer cost-effective compliance to producers through economies of scale and the specific professional skills they acquire and maintain, thereby allowing producers to focus on their core business and the fulfillment of obligations that cannot be fulfilled collectively (for instance, product design).

EPR frameworks may establish PROs as the sole compliance methods or as an alternative to other methods, such as individual compliance, collectives and EPR funds.

Similarly, PROs may operate as monopolies or in competition see the table next, where several PROs compete for onboarding producers and waste operators. Specific provisions in the regulations are advisable to mitigate the risk associated with either one of these models from the Toolkit. PROs may operate for profit or be not-for-profit. Here as well, specific provisions should provide a clear framework for operations and the rules for funds allocation and financial surplus management.

Regulators have also addressed PRO ownership in jurisdictions outside of ASEAN, sometimes requiring that they established and owned by producers, or prohibiting that they be established or owned by waste operators. In contrast, some frameworks do not regulate PRO ownership, and any investor can establish a PRO providing they meet the technical and financial eligibility requirements. At the other end of the spectrum, PRO may also be established under the ownership of a public body.

A related aspect is PRO governance, which can be regulated in detail or left to common corporate practices.

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Innovation & efficiency

Competitive EPR Schemes (Multiple PROs)	Monopolistic EPR Schemes (Single PRO)
Competitive systems often stimulate innovation, as PROs must differentiate themselves and continuously improve services to attract and retain producers. Efficiency gains may arise from optimized logistics, better digital tools, and customer-oriented solutions. However, innovations that increase producer fees may meet resistance, as PROs fear losing clients to competitors.	Innovation tends to be slower, as a monopoly has no competitive pressure to outperform rivals. However, a single PRO can implement system-wide innovations more easily (standardized processes, unified infrastructure investments) when strongly regulated.

Cost control & economic incentives

Competitive EPR Schemes (Multiple PROs)	Monopolistic EPR Schemes (Single PRO)
Competitive tendering for waste management services typically leads to lower operational costs, as PROs negotiate aggressively to achieve cost-efficient collection and sorting contracts. PROs have a strong incentive to minimize their internal costs to offer attractive fee levels. However, competition may lead to duplication of systems, raising overall system costs.	A monopoly can rationalize infrastructure and avoid duplication of collection and sorting contracts. Costs can be optimized at the system level rather than being fragmented across competing PROs. Yet, monopolies may lack incentives to minimize costs unless regulation imposes strict transparency, audits and performance-based requirements.

Customer satisfaction & service quality

Competitive EPR Schemes (Multiple PROs)	Monopolistic EPR Schemes (Single PRO)
Producers often appreciate the flexibility to choose the PRO offering the best price–quality ratio. Competition can increase responsiveness, customization, and service quality.	Producers have no choice but to accept the services and fees set by the monopoly, which may reduce customer satisfaction. Good regulation can mitigate this through stakeholder consultation and transparent fee methodologies.

More details providing design options and operational considerations to support decision making can be found in the Toolkit

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System performance & environmental outcomes

Competitive EPR Schemes (Multiple PROs)	Monopolistic EPR Schemes (Single PRO)
Competition may improve operational efficiency but can make it harder to ensure system-wide optimization. Competing PROs may struggle to coordinate on collection routes, public education campaigns, and infrastructure investment. Some innovations benefiting the whole system may not be pursued if they do not offer a competitive advantage to a single PRO. Coordination centers or clearing houses may be required.	Monopolistic schemes often run more coherent and far-reaching public information and awareness campaigns, because costs can be spread across all producers and because they directly benefit the PRO's operations. System-level performance is easier to manage, track and optimize when a single operator plans nationwide activities. However, lack of competition may lead to complacency

Risks of over-compliance and waste competition

Competitive EPR Schemes (Multiple PROs)	Monopolistic EPR Schemes (Single PRO)
In competitive environments, PROs may "over-collect" to secure market share or sell excess quantities to other PROs unable to meet their targets. This can lead to distorted incentives, inefficiencies and higher system costs. Cherry-picking of easy-to-collect, high-value materials may occur, undermining equitable service provision. Competing PROs have an incentive to identify and contract free-riders to grow market share.	Over-collection is unlikely in monopolistic systems. However, without strong regulatory oversight, the monopoly may underperform or set suboptimal priorities that do not align with national policy objectives. Risk of abuse of dominant position vis à vis producers and waste operators.

Level playing field & governance risks

Competitive EPR Schemes (Multiple PROs)	Monopolistic EPR Schemes (Single PRO)
Multiple PROs can increase the risk of "race to the bottom," where PROs compete by lowering fees in ways that compromise service quality or undermine environmental outcomes. Strong regulation and harmonized rules (e.g., same reporting formats, minimum recycling standards, etc.) are needed to maintain fairness.	Monopolies accumulate significant market power, increasing the risk of abuse (e.g., non-transparent costs, restrictive procurement practices). Even well-regulated systems may show governance gaps. Robust transparency rules, independent audits and regulatory supervision are essential.

More details providing design options and operational considerations to support decision making can be found in the Toolkit

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Infrastructure planning & system coherence

Competitive EPR Schemes (Multiple PROs)	Monopolistic EPR Schemes (Single PRO)
Fragmentation may hinder long-term infrastructure planning, as PROs have no guarantee they will retain producers over time. Investment signals come from regulations and targets rather than PROs. Coordination among PROs may be difficult, creating inefficiencies.	A single PRO can plan long-term, system-wide investments in sorting facilities, digital tracking tools and public recycling centers. Infrastructure expansion is more coherent and easier to align with national circular economy goals.

Regulatory oversight needs

Competitive EPR Schemes (Multiple PROs)	Monopolistic EPR Schemes (Single PRO)
Competitive systems require stricter, more complex oversight to ensure coordination, avoid cherry-picking and guarantee transparency across multiple PROs.	Monopolistic systems require strong checks to prevent abuse of dominant position. Oversight can be simpler (one PRO to supervise) but must be rigorous and independent.

Suitability in different contexts

Competitive EPR Schemes (Multiple PROs)	Monopolistic EPR Schemes (Single PRO)
Competitive models can function well in mature markets with strong regulators, robust data systems and well-developed coordination or clearing mechanisms.	Monopolistic models are generally better suited to countries with limited regulatory capacity, fragmented municipal systems or early-stage EPR implementation. They offer simplicity and coherence but require safeguards against power concentration.

More details providing design options and operational considerations to support decision making can be found in the Toolkit

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PRO models in ASEAN

Country	PRO model
Indonesia	• PROs not legally recognized in the current regulation P.75 (currently being overhauled) • No monopoly as of today (at least two PROs exist)

Singapore	• Single operator for Beverage Container Return Scheme
	  • Licence issued by National Environment Agency after an open call for application.
	  • Licence awarded for 7 years (from 1 Apr 2026 to 31 Mar 2033)

Thailand	• PRO referred to as “National Packaging Management Organization” in the draft of the Sustainable Packaging Management Act of February 2025 • In the initial period, a national PRO shall be established with the support of the Federation of Thai Industries (FTI), the Thai Chamber of Commerce (TCC) and the Board of Trade of Thailand (BTT) • 5 years after the Act coming into force, it will be assessed if this PRO should continue or not
The Philippines	• PROs legally recognized in the EPR Act • Several PROs exist
Viet Nam	• PROs not explicitly named in Viet Namese laws; however, their functions are performed by the so-called “authorized parties” • Although competition is allowed, only one PRO for packaging exists as of today

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4.3.8 Applicable Standards

Standards ensure that EPR systems function fairly by creating a common (technical) language for producers, collectors, recyclers, and regulators. They enable coherent data reporting along the value chain, ensuring consistency in measurement methods and outputs. By ensuring the comparability of plastic qualities, waste management processes and recyclates, the products and services can be valued and priced on the basis of clear, shared benchmarks. Standards also reduce the risks for procuring recyclates by defining minimum quality and performance requirements. By aligning national systems with internationally recognized standards, ASEAN countries can increase compatibility with global markets and ensure that all actors measure, test and report in the same way.

A well-designed EPR framework should therefore reference or incorporate relevant international, regional and national standards. A comprehensive list of applicable international, regional and national standards is provided in the Toolkit

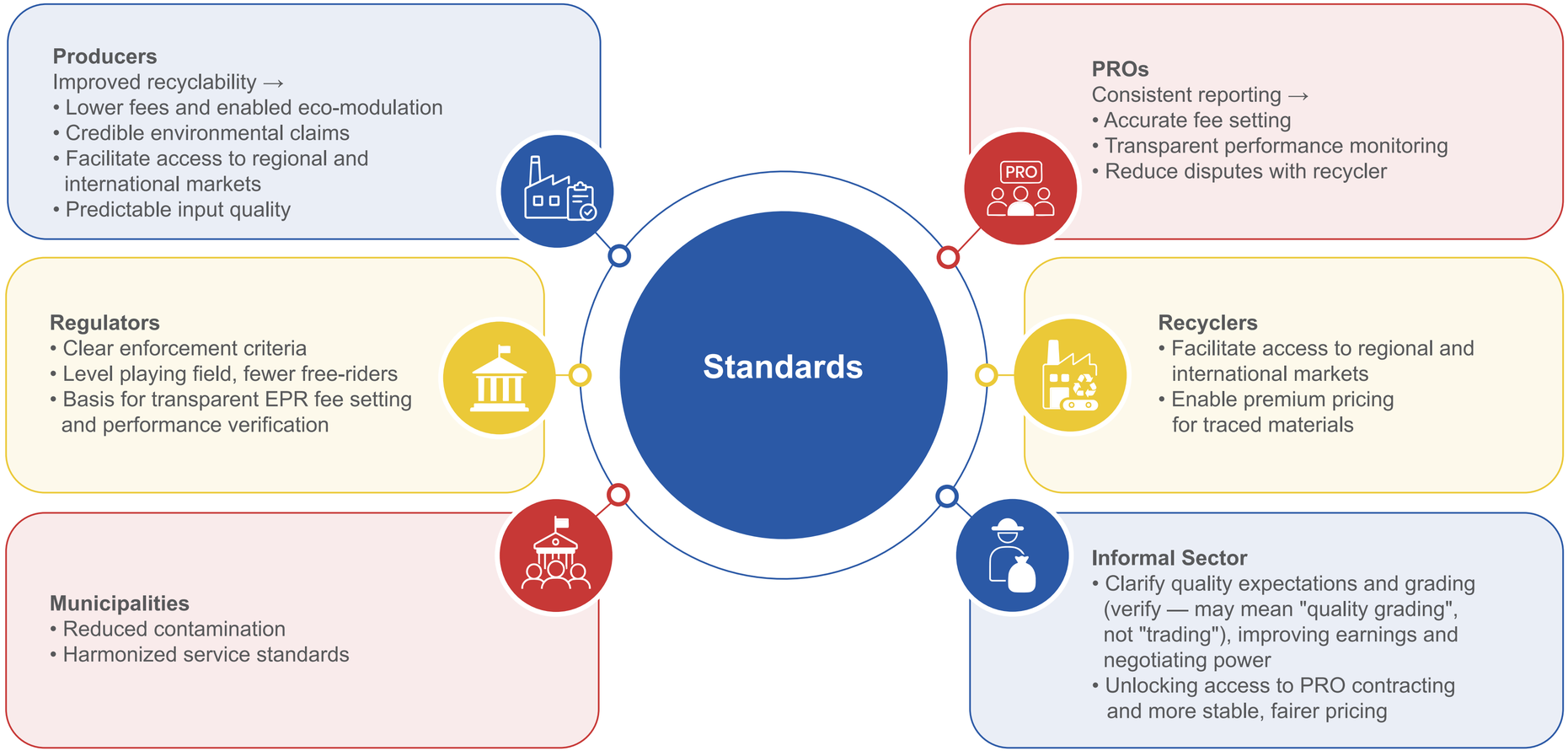


Use Cases & Benefits

For producers, standards provide clear design criteria and recyclability benchmarks, ensuring that packaging POM can be efficiently sorted and recycled in a fair EPR fee modulation environment. For PROs, standards support transparent monitoring, procurement and verification by defining uniform requirements for material quality, reporting formats and performance measurement. Waste operators benefit significantly, as standards in processes and products improve recyclate quality and facilitate their trade and highest market value. For informal sector groups, standards establish better working conditions and guide traceability and documentation practices that can guarantee them higher prices. For regulators, standards enable consistent enforcement, compliance monitoring and prevention of free-riding, while supporting alignment with international markets and responsible plastic waste trade rules. Collectively, these functions create a common technical foundation that strengthens trust, reduces transaction costs and enhances system performance across the entire EPR value chain.

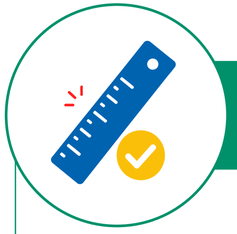
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Business case for standards in plastics packaging



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Standards Categories

Standards exist for each stage of the plastics packaging lifecycle: for product and packaging design; plastics collection and sorting; control measures at a material recovery facility; recycling processes and recyclate quality; data reporting and verification; and trade in plastic waste between countries.

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Data reporting and verification (national level)			Regional level
Stage	**Scope**	**EPR relevance**	**Examples (International or EU / ASEAN)**
Product and packaging design	Guide recyclability, compostability, material selection, packaging volume reduction and other upstream eco-design criteria (for higher compatibility with downstream sorting and recycling systems)	• Allowing for objective evaluation of a product's circularity • Supporting EPR fee modulation	• ISO 18604 (recyclability) • ISO 18606 / EN 13432 (compostable packaging) • National eco-label criteria (e.g., Viet Nam, Malaysia) • ISO 18602:2013, adopted by Viet Nam voluntary reference TCVN 12254:2018 (minimize packaging)

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Data reporting and verification (national level)			Regional level
Stage	**Scope**	**EPR relevance**	**Examples (International or EU / ASEAN)**
Plastics collection and sorting	Identification, classification and pre-sorting requirements, as well as criteria and test methods for purity levels, resin-type acceptance and methods for determining contamination	• Improving quality of sorted materials • Reducing contamination and enabling PROs and recyclers to meet performance targets	• ASTM D7611 (Resin Identification Codes) • ISO 11469 (marking of plastics) • EN 15347:2007 (Characterization of Plastic Waste) • ASTM D7204-15 Standard Practice for Sampling Waste Streams on Conveyors (standardization body) • ASTM D7611 used in the Philippines • ISO 11469 mandatory and adopted in most ASEAN packaging laws
Control measures at a material recovery facility	Specifying minimum performance requirements for MRF operations, such as contamination thresholds, bale specifications, safety requirements and input/output documentation to ensure reliable material flow into recycling processes	• Increasing the quality of recyclates that facilities can produce • Supporting data traceability, requirements for recycling • Supporting data accuracy traceability and fair performance evaluation	• Bale quality specifications, contamination thresholds, safety and environmental management standards (ISO 45001, ISO 14001)

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Data reporting and verification (national level)			Regional level
Stage	**Scope**	**EPR relevance**	**Examples (International or EU / ASEAN)**
Recycling processes and recyclates quality	Defining quality, purity, safety and performance requirements for recycled polymers, supporting stable markets and enabling the use of recyclates in food-contact and non-food applications (e.g., skin-contact)	• Manufacturers can trust recyclates qualities • Ensuring credibility of recycled content claims • Allowing for monitoring targets	• EN 15343 (traceability & recycled content), SNI 8424:2017 (food-grade rPET[7]), MS 1904:2006 (recycled HDPE), ISO 15270 (recycling guidelines) • ISO 15270:2008 – Plastics: Guidelines for Recovery and Recycling
			• MS ISO 15270:2008 in Malaysia, voluntary • SNI 8424:2017 – Recycled PET Resin for Packaging (Indonesia) • MS 1904:2006 – Recycled HDPE Molding Materials
All stages	Standards ensuring that EPR data (POM declarations, collection volumes, recycling outputs and recycled-content claims) are calculated, reported and verified consistently across all obligated entities	• Supporting transparency and governance • Providing credible, comparable data for fee setting, compliance checking, anti-fraud measures and performance tracking; supporting transparent EPR governance	• ISO 14021 (environmental claims) • ISO 22095 (chain of custody) • EN 15343 (recycled-content calculation) • D5577-19 Standard Guide for Techniques to Separate and Identify Contaminants in Recycled Plastics
			• Philippines DENR EPR Reporting & Audit (RA 11898 IRR)

[7]The most rigorous standards for plastic recycling apply to food applications, medical applications and toys that come in contact with children. These standards include traceability of the feedstock chain and safety systems for quality control.

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Data reporting and verification (national level)			Regional level
Stage	**Scope**	**EPR relevance**	**Examples (International or EU / ASEAN)**
Trade in plastic waste between countries	Governing the classification, handling and documentation of plastic waste shipments, supporting compliance with Basel Convention[8] requirements and facilitating safe, transparent cross-border trade	• Ensuring sound management of exported/imported plastic waste • Creating predictable conditions for regional recyclates markets	• Basel Convention codes and Annexes, ISRI specifications, national import quality standards (e.g., Indonesia, Malaysia, Viet Nam).

The “Regional Guidebook on Standards for Responsible Plastic Waste Trade, Sorted Plastics and Recycled Plastics” and the “Best Practice Manual for Development of Minimum Standards and Technical Requirements for Plastic Packaging and Labeling” under SEA-MaP are reference publications to dive into the concept. The Guidebook can be **accessed here**

[8]The Basel Convention regulates transboundary movements of waste and, since the 2019 amendments, covers most plastic wastes. Clean, homogeneous plastics destined for recycling fall under B3011, while hazardous or contaminated plastic wastes requiring prior informed consent fall under A3210 or Y48. These classifications determine documentation, notification and control requirements for international plastic waste shipments. All ASEAN Member States are Parties to the Basel Convention.

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4.3.9 Education, Awareness, Outreach

Education, awareness and outreach are another critical component of effective EPR systems, particularly in the ASEAN region where general understanding of EPR obligations, waste segregation practices and material recovery pathways requires further alignment. Awareness activities are not only relevant for the general public, but also for retailers, producers and every other involved stakeholder with obligations.

Low EPR-awareness can undermine compliance, limit the effectiveness of collection and recycling systems and negatively impact recyclate quality and quantity. Integrating structured awareness-raising measures from the outset of EPR design ensures that all EPR actors understand their roles and fully embrace them. A dedicated education and outreach strategy is needed for several reasons. Different stakeholder groups require tailored information:

Producers shall be informed of their legal obligations, registration and reporting requirements, targets to be achieved, fee structures, eco-design incentives, options for compliance (collective, individual, fund-based mechanisms or hybrid models), audit expectations and fines for non-compliance or underperformance.

Consumers require clear, practical guidance on sorting practices, how and where they should return waste packaging, the role of reuse and refill options and how their behavior contributes to achieving collection and recycling targets. Weak public understanding typically results in high contamination rates, littering and limited collection and recycling of packaging. Consumer behavior determines to a large extent the volume and quality of waste collected, so consumer awareness, information, participation and incentivization is a key success factor of the EPR system.

Waste operators (both formal and informal) need to understand how EPR affects their activities, what opportunities for cooperation with PROs and/or producers it offers, if any new collection and recycling standards are established, and whether there are any new requirements for registration, reporting or working conditions.

Retailers require guidance on their roles in verifying producer compliance (buying only from registered producers), facilitating take-back, providing consumer information and supporting producer-led communications.

Informal sector actors need to be educated on benefits that EPR may bring them, opportunities for integration (e.g., via cooperatives), waste tracking requirements, health and safety considerations and channels for engagement with PROs or local governments.

Public stakeholders (national regulatory agencies, enforcement authorities, local government units and public waste utilities) may require structured capacity building to correctly interpret EPR regulations, apply enforcement tools, assess compliance, engage with PROs and producers and ensure integration of the informal sector.

Given their mandate to fulfill producer obligations and engage directly with waste operators, retailers and local government units, PROs are well-positioned to lead education, awareness and outreach activities. To ensure that messaging is coherent and consistent across the whole country, it is advised that their campaigns be coordinated on the central level.

Further practical guidance, including templates for communication materials and examples of stakeholder-specific messaging for various actor groups, is provided in **the Toolkit 3.9** accompanying this Handbook.

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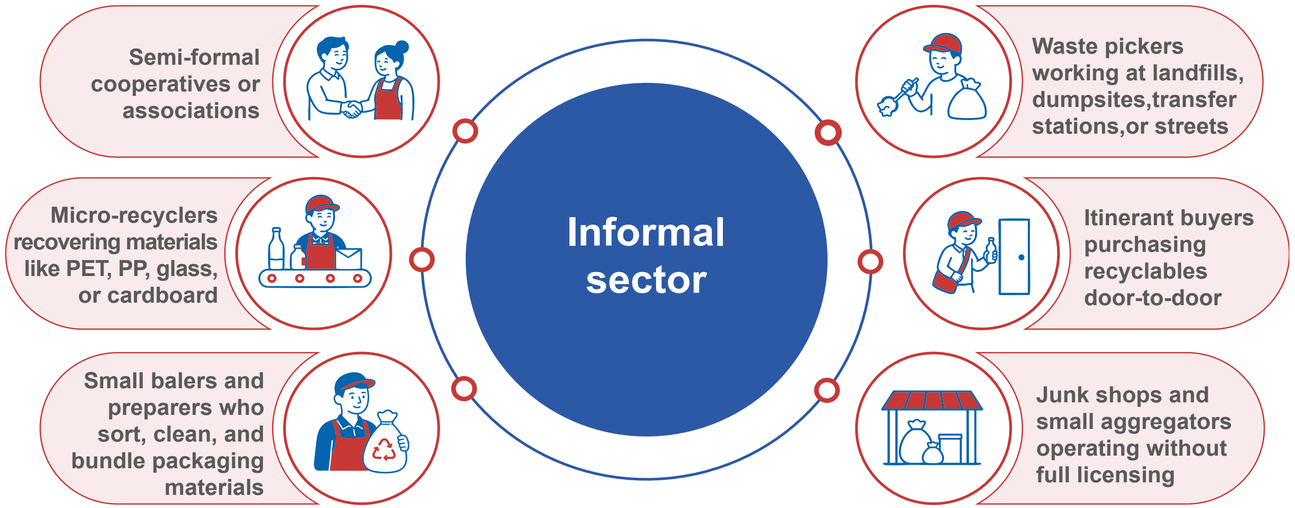
4.3.10 The Informal and Semi-Formal Sectors

The informal and semi-formal sectors are essential participants in the collection and recycling of packaging waste across the ASEAN region. Depending on the country, informal waste workers (IWWs) may include waste pickers, junk shop operators, itinerant buyers, aggregators and small-scale recyclers. These actors collect a significant share of high-value packaging materials, especially PET bottles (in case of plastics), but also aluminum cans, paper and cardboard, often more efficiently than formal systems. Women constitute a substantial share of this workforce in many ASEAN countries, often concentrated in sorting and aggregation tasks that require specific attention to safety, income stability and recognition.

Integrating the informal and semi-formal sectors is central to achieving EPR targets, as well as building an inclusive, resilient waste management system. Support and assistance must be provided with care, keeping in mind that too little support marginalizes informal workers as formal collection systems expand, whereas too much of it may cause dependency or market distortions, such as pricing disruptions for recyclables when done responsibly, integration may become a pathway to dignity, stability and professional recognition for millions of workers across the region.

Who the informal worker is

"Informal sector" is understood differently in each country, but commonly forms a dense network that may include, for example:



Their legal status may differ in each country. While some may operate entirely outside formal systems, others may already run a functioning business with some kind of license. Understanding their roles, status and needs is important for providing proper support or integration into the waste management system. This includes recognizing gendered divisions of labor, as women are often concentrated in lower-paid or higher-risk sorting roles that require targeted support.

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Informal Sector Support Strategies

Supporting informal workers may include:

1 Financial incentives

Informal workers are highly sensitive to fluctuations in the price of recyclables. Sudden drops, particularly in PET, PP and flexible plastics, can threaten livelihoods overnight. EPR systems can help by offering:

- EPR-funded price support: Subsidies to keep low-value packaging prices stable (for example, multilayer sachets and LDPE film).
- Performance-based payments compensate for verified volumes collected or sorted.
- Inclusion in buy-back programs: PROs set floor prices for high-demand materials such as PET.
- Access to stable, longer-term contracts: PROs or affiliated operators can offer predictable purchase agreements or service contracts that guarantee minimum monthly volumes or payments, reducing income volatility for informal workers and enabling them to plan and invest in their operations.

These measures help stabilize the market, protect informal workers from price volatility and promote the recovery of difficult-to-package types.

2 Self-organization promotion

Organizing informal workers into cooperatives, associations and micro-enterprises allows them to maintain their independence while gaining legal recognition and negotiating power with larger buyers. This also has the effect of increasing profit margins for them, because as an organized entity reaching larger aggregated quantities, the need for intermediaries, each having profits, is reduced. PROs can support informal workers by providing access to EPR funds, equipment and infrastructure, resulting in safer and more stable working conditions.

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3 Training and capacity-building programs

Training programs may be considered small interventions but still have significant impact when tailored to different needs, skills and literacy levels. PROs can train informal workers directly or fund trainings delivered by NGOs, LGUs, or cooperatives, covering for example:

- Proper sorting and contamination reduction
- Fire prevention and safe handling (important for plastics)
- Occupational health and safety (OHS)
- Use of digital tools for reporting collection volumes
- Basic business and bookkeeping skills

When informal workers are trained, their operations become safer, more efficient and more attractive to PROs and other waste management system actors seeking reliable partners.

4 Social protection and transition support

Many informal workers face risks daily, including exposure to hazardous materials, injuries and unpredictable incomes. EPR systems can assist by offering:

- Health coverage or inclusion in social protection schemes
- Access to PPE and safety equipment
- Access to formal workspaces or materials recovery facilities (MRFs) with more advanced equipment (e.g., baler operators, quality controllers)
- Targeted support for female waste workers, including measures to address safety risks, unequal pay and barriers to cooperative leadership

5 Digital tools and data systems

In many cases, digital tools are no longer a barrier to informal workers. Using them can help to formalize relationships without sacrificing flexibility. With the rapid development of mobile apps, smart weighing systems and digital IDs, informal workers can be assisted in recording collected materials, verifying earnings and receiving EPR incentives directly. Traceability enables PROs to verify informal worker contributions, issue payments (e.g. through mobile money payments), and collect reliable data for national reporting purposes. This system may provide workers with stability and trust while maintaining their independence, reducing reliance on intermediaries and benefiting groups (such as women) who may have less negotiating power in traditional trading chains.

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Inclusion of informal waste workers in the Philippines

Across the ASEAN region, stakeholders generally view EPR as an essential policy to strengthen waste management and express the hope that it could contribute to the integration of the informal sector, which plays a significant role in all 10 ASEAN countries.

The Philippines is an example of a country striving to recognize the informal sector in the EPR system, including some provisions in its regulatory framework:

The EPR Act identifies partnership with the informal sectors as one of the activities within product waste recovery programs[9]

The Implementing Rules and Regulations (IRR) provide a definition of the informal waste sector, encouraging obligated enterprises, collectives and PROs to involve, where feasible, informal waste collectors, NGOs or civil society organizations in their plastic packaging waste collection plans[10]

The IRR stress also what such partnerships should ensure, i.e.:

- A formal coverage of the activities of informal collectors,
- That, as a minimum, the national rules related to occupational health, employee rights and environmental protection are complied with at every stage,
- That standards and rules are complied with and higher standards or safeguard systems are introduced if these are more protective than the national rules on social inclusion, gender equality, grievance mechanisms, child labor, occupational health and fair wage policies.[11]

While integration in practice remains limited, many informal waste sector groups and associations advocate, among others, for formal recognition, direct participation, fair compensation and protective equipment. Unrelated to EPR implementation, the Philippine National Waste Workers Association and Mother Earth Foundation drafted a **Magna Carta for Waste Workers**. The document was filed in the Congress in April 2024 and re-filed in September 2025, proposing the following key provisions:

Definition of “waste workers” (formal and informal, including waste pickers/scavengers)

Guarantee of social protections (e.g. coverage under pension/social-protection schemes), hazard pay, representation in local solid-waste-management boards requirement for employers to provide personal protective equipment, free annual medical exams, vaccinations, access to health services and regulated working hours (max 8 hours/day, overtime pay for extra hours)

Other protections, such as: security of tenure, prevention of discrimination, inclusion in socialized housing programs (for LGU waste workers) and access to training/ accreditation via Technical Education and Skills Development Authority (TESDA)

The Toolkit provides factsheets for inclusion principles, safety and health provisions and human rights standards of employment.

[9]Section 44-A, EPR Act of 2022

[10]Art. 12.2.1.2, Implementing Rules and Regulations (DAO 2023-02)

[11]Art. 12.2.6.3, Implementing Rules and Regulations (DAO 2023-02)

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4.4 Regulation and Enforcement



This section explains the importance of EPR enforcement. It helps ASEAN policymakers to create or amend EPR regulations and draft legal provisions for incentives and penalties. It also shows how enforcement mechanisms can be operationalized.

4.4.1 Aspects that A Regulation Should Cover:

The information in the listed sections below will guide the reader to determine which aspects of EPR the regulations should cover:

3.1 Common EPR Definitions
4.1 Aspects that an EPR Regulation Must Cover
2.2 Producer under EPR

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4.4.2 Penalties



Penalties and incentives are the backbone of EPR enforcement. A robust and fair penalty system complements incentives and other regulatory tools, driving system participation, ensuring consistent compliance with EPR obligations and creating a level-playing field. On the other hand, inevitability of penalty maintains the credibility of the overall system. Effective penalty frameworks build on proportionality, fairness and transparency, allowing regulators to differentiate between minor administrative shortcomings, unintentional errors and serious violations that could undermine system performance.

A graduated approach to penalties is recommended. Regulators are hence advised to consider both severity (e.g., environmental harm, financial impact, recurrence, system-wide implications) and intent (e.g., negligence, recklessness, deliberate evasion). Scaling mechanisms may include written warnings for first-time administrative breaches, administrative fines that increase with the seriousness or duration of the violation, orders to take corrective action, sales bans, license suspension or withdrawal (for PROs and waste operators) or, in cases of the most serious violations, criminal penalties.

To support enforcement, but also to enhance understanding among actors who need to comply, EPR legislation or its implementing guidelines need to clearly indicate non-compliance offenses. The typical list includes:

List of typical offences against EPR frameworks

- Failure to register in the EPR Registry
- Late or incomplete reporting
- Misreporting of packaging data (e.g., reporting less than the actual POM)
- Misreporting on target achievement
- Non-payment or underpayment of EPR fees
- Failure to achieve mandated collection or recycling targets
- Obstruction of audits
- Fraudulent auditing
- Mishandling waste (e.g., dumping)
- Overreporting of waste processed (e.g., manipulating recycled tonnage)

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4.4.2 Penalties

It is worth noting that during the initial phase of EPR implementation, mistakes and shortcomings are likely to occur as producers and PROs are still learning about the system and their new obligations. The rate of adherence also depends on the quality and range of education, awareness and outreach campaigns see subsection 4.3.9 Therefore, regulators could grant a defined grace period in which penalties are limited to warnings or corrective orders, while also signaling that full-scale enforcement shall follow once the transition period ends. The factsheet below summarizes existing penalty regimes in the ASEAN countries.

Penalty regimes in ASEAN EPR systems

Country	Penalty examples
Philippines	• Fines for failing to register or meet EPR targets: range from ₱5 million to ₱20 million (a range between approximately USD 88,000-360,000) • Business permit suspension • Fines for not meeting EPR targets may also equal twice the cost of recovering or diverting the shortfall in plastic footprint

Singapore	• Penalties under Mandatory Packaging Reporting (MPR):
	  • First conviction: up to S$5,000 (USD 3,887)
	  • Second/subsequent conviction: up to S$10,000 (USD 7,775) and/or up to 3 months' imprisonment
	  • Continuing offences: daily fines up to S$1,000 per day (USD 777)
	• Producers or BCRS licensee may face fines up to S$10,000 (USD 7.8k) or imprisonment for various breaches specified in the regulation.

Viet Nam	Fines for EPR violations (e.g., responsibility for recycling and treatment for products and packaging by producers and importers): from 50 million to 1 billion VND (USD 1,900 – 37,960)
Thailand (emerging EPR system)	• Fines for failing to collect used packaging in accordance with the targets specified in the packaging management responsibility plan: up to 1 million baht (USD 32,130) • Fines for submitting false information: up to 100 thousand baht (USD 3,213) • Fines for distributing packaging prohibited from sale: up to 500 thousand baht (USD 16,065)

Further practical guidance on designing penalty structures, including templates for enforcement matrices and examples of proportional sanctions, is provided in the accompanying Toolkit.

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4.4.3 Incentives



Fiscal and non-fiscal incentives are just as important as penalties for successful EPR enforcement. They encourage producers and other stakeholders to participate in the EPR system more willingly – even when the obligation does not yet exist. While the penalty regime establishes the minimum requirements for compliance and deters undesired actions, incentives help shape the expected behavior, influence material choices and encourage producers/PROs and waste operators to exceed baseline expectations. Well-designed incentive mechanisms may also foster investment in waste management infrastructure.

Fiscal incentives help reduce the capital and operational costs associated with mandatory and voluntary EPR. The minimum standard is deductibility of EPR expenses borne by producers from their tax base. Governments may also stimulate EPR compliance with a wide range of other tax-based measures:

- Preferential financing and tax credits for investments in waste management infrastructure
- Exemptions from import duties for recycling technologies
- VAT exemptions for recycled-content products, etc.

A central tool within financial incentive systems is eco-modulation of EPR Fees, in which EPR fees collected from producers are modulated based on product design attributes: its recyclability, material composition and overall environmental impact are factored into the EPR Fee amount. Applying higher fees to non-recyclable and hard-to-recycle packaging and lower contributions to sustainably designed packaging sends a financial signal to producers, encouraging them to shift toward better-performing packaging formats. In other terms, the fees for problematic products or materials may exceed their actual management cost, thereby sending a price signal to the producer. This way, eco-modulation drives innovation in packaging design, supports recycling markets and improves the overall cost-effectiveness of the EPR system.

Prerequisite of eco-modulation (alternatively: Eco-modulation in ASEAN)

1/4

Fee modulation requires the existence of actual EPR fees (which are most commonly a price/kg of product placed on the market); hence the concept cannot be applied to individual compliance systems. It is also not likely to work with compliance via collectives when cost is apportioned through a mechanism other than a Fee. Eco-modulation is viable only in fund-based and PRO-managed EPR models (see: 4.3.3). However, as observed, the role of PROs in ASEAN has so far been limited, with fees going toward administrative support, as PROs do not generally engage in waste management services procurement. In such cases, introduction of eco-modulation shall require the strengthening and expansion of the PRO role or its payment to a central fund – which would raise the issue of disbursement rules.

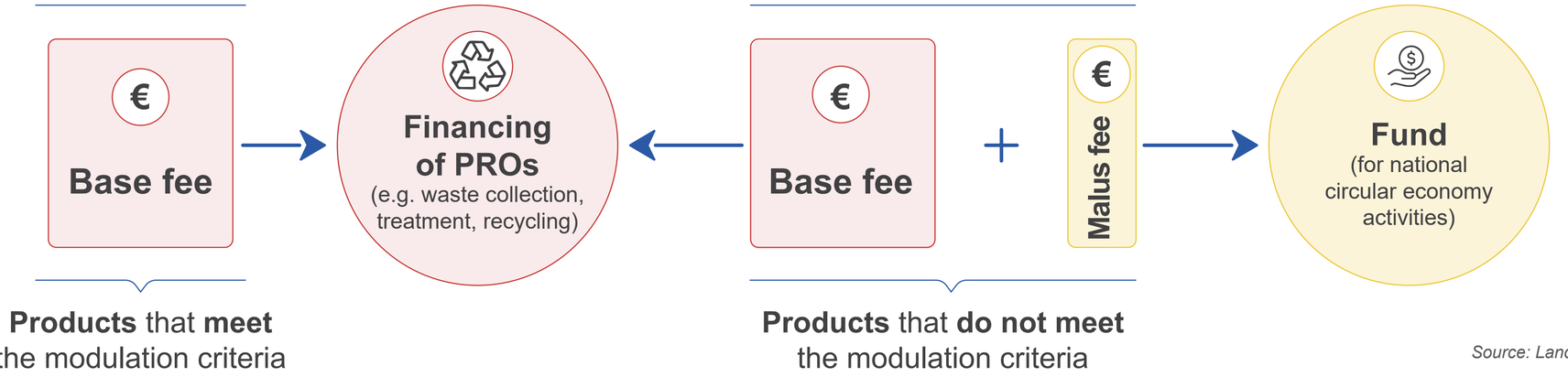
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Prerequisite of eco-modulation (alternatively: Eco-modulation in ASEAN)

Fee modulation is part of the regulatory framework and requires stakeholder consultation involving producers and waste operators, as modulation criteria must be relevant, applicable and controllable:

- Modulation criteria encompass materials, packaging unit composition, substances, use of recycled material, voluntary labelling and reusable packaging. For instance, a clear PET bottle would be associated with a lower EPR Fee than a colored PET bottle.
- In case of multiple PROs, a coordinated approach is required to prevent opportunistic pricing behavior from PROs and opportunistic procurement behavior from producers. A balance can be achieved by mandating the percentage of variation to be applied on the base EPR Fees freely determined by PROs.
- The net surplus between reduced fees and increased fees may either be left to the PROs to utilize, or be consolidated into a common fund for certain activities like education, research or infrastructure development as in the example below:



Source: Landbell Group

- Good modulation criteria make themselves obsolete over time, as producers switch to the more environmentally favorable practices.

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Incentives can also take non-financial forms, such as clear regulatory roadmaps, recognition schemes for high-performing producers and PROs (awards and public rankings), administrative easements (facilitated access to data platforms, simplified reporting, faster approvals or reduced audit frequency), technical assistance, green procurement or co-branding of public awareness campaigns. Incentives are appreciated throughout all phases of EPR implementation and are especially needed in its nascent stages, where positive reinforcement can boost participation and support system ramp-up without imposing additional financial burdens.

Incentive type overview with examples

Incentive type	Example
Eco-modulated fee	• Higher fees for multilayer/sachets • Reduced fees for mono-material or high-recyclability formats • Bonuses or concessions for recycled-content packaging
Price-support mechanisms	• EPR-funded subsidies for alternatives to phased-out materials • Performance-based payments for verified volumes
Regulatory facilitation	• EPR-funded subsidies for alternatives to phased-out materials • Performance-based payments for verified volumes
Recognition and visibility	• Public recognition for high-performing producers or districts/municipalities • Awards for eco-design innovations • Publication of compliance scorecards • Permission to label/advertise tracked and demonstrable performance

Incentive type	Example
Operational incentives	• Renewed contracts • Contracts that reward verified performance • Bonuses for achieving contamination thresholds
Capacity-building and technical support	• Training on eco-design, reporting templates, safety and sorting practices • Access to design tools and recyclability guidelines • Access to a larger market and network (see the Regional Platform section)
Voluntary participation benefits	• Early-mover recognition by ministries or PROs • Official recognition and permission to label/advertise

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Across the ASEAN region, several examples illustrate how incentives are beginning to shape market behavior:

Incentives in ASEAN



Malaysia

The government is encouraging companies to participate voluntarily in EPR programs and pilot initiatives ahead of full regulatory implementation. Enterprises can benefit from the Green Investment Tax Allowance (GITA); for example, firms investing in green-technology assets or waste management systems (which could support EPR implementation) can claim a 100% investment-tax-allowance on qualifying capital expenditures.



Philippines

Companies may claim tax deductions for EPR-related expenses, receive tax and duty exemptions on donations made in support of waste management activities and benefit from non-fiscal rewards or recognition for outstanding or innovative reuse, recycling or reduction initiatives.



Viet Nam

Companies that engage in recycling or circular-economy activities under the EPR regime may benefit from tax and fee incentives, preferential treatment for green/recycling industry investments (including support for capital, land or green-credit) and other preferential policies aimed at supporting waste-recycling operations and circular economy projects.

Note: In practice, the adoption rate and implementation of the above incentives remain low in all ASEAN countries, raising the valid question of their applicability or if significant barriers exist.

Further detailed guidance on incentives, are provided in the accompanying **Link to the Toolkit 4.3**

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4.5 Implementation



In the implementation phase, EPR regulations are put to practice. This stage often entails a transition from voluntary EPR systems to mandatory compliance.

For the EPR system to be launched and matched with on-the-ground operations, general enabling mechanisms need to exist, such as collection and infrastructure assets:

Collection

Roads, trucks, bins, pickup schedules and to the degree possible, packaging waste separation at source.

Administration

Licensing requirements and inspection teams, a customs database, a licensing system to manage applications and follow up renewals, inter alia.

Disposal

Operating sanitary landfills, penalties for clandestine dumpsites.

Additional enablers

Transactional and reporting software, data gathering and processing, performance monitoring and evaluation, awareness raising, capacity building, continuous improvement frameworks.

This section guides readers in structuring contracts and planning costs, while clarifying what EPR fees typically do and do not cover.

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4.5.1 Business Plan

Operationalization of EPR is a crucial step that can begin before EPR regulations are actually enforced to enable, immediate follow through. In any case, proactive management by the regulator during the transition to operationalization is advisable to avoid delays and maintain implementation momentum. At this stage, responsibility for execution is usually shifted to the private sector (unless the EPR scheme will run as a public system), which has to plan, build and deploy the operational solution. Several scenarios apply, depending on whether the system is individual (run by a single producer), collective (run by multiple producers gathered under the leadership of a lead producer) or run by a PRO:

Individual producers are likely to operate their scheme the same way they procure services for other aspect of their business: they will follow their own business processes while abiding regulatory requirements. However, collectives and especially PROs will have to develop a set of business processes to deliver compliance to their members.

The main processes of an EPR system to consider are below:

Producer management plan

- Criteria for accepting new members and a description of the applicable terms and conditions
- Structure and main content of the membership agreement
- Procedure for informing producers about the EPR Fees and their revision
- Procedure for the administrative formalities such as registration, reporting and

Operations management plan

- Design of waste collection system, either through scheduled collection routes or by setting up voluntary drop-off points in conjunction with formal and informal waste operators, or via a viable procurement plan of waste treatment certificates as required by regulations
- Deployment of voluntary drop-off points or waste banks in public spaces in agreement with local authorities, or through partnerships with private stakeholders, such as distributors
- Selective waste collection programs for businesses, government offices, shops, hotels & restaurants and schools
- One-off selective waste collection events
- Waste treatment plan to be implemented (including reuse, recycling, recovery and disposal) necessary to achieve the targets
- Communication on private sector investment opportunities in waste treatment where treatment capacity is insufficient in certain areas to meet the targets

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The main processes of an EPR system

Supplier management plan

Identification of the public and private actors responsible for waste treatment and documents their role in household waste management

Procedures for implementing agreements with waste operators (public or private) to integrate them into the collection network to meet the established targets

Establishment of contractual agreements with relevant licensed waste operators, whether formal or informal, who have chosen to formalize their activities

Definition of criteria to ensure fair and transparent sourcing

Reporting and data management

Definition of the information system to be used to collect data from the various stakeholders

Definition of data to be collected and produced, for instance:

- Volume of waste collected by formal and informal collectors
- Origin and destination of the waste
- Fractions generated at the end of the sorting operations (if applicable) and their destination
- Waste collection rate by material and the indicator of achievement of collection targets in relation to the quantities sold by the producer members of the PRO or collective
- Waste recycling rate by material and the indicator of achievement of recycling targets in terms of quantities collected and quantities sold by the producer members of the PRO or collective
- Waste recovery rate by material and the indicator of achievement of recovery targets in relation to quantities collected and quantities sold by the producer members of the PRO or collective.

Education and information

Definition of the communication plan for producers, consumers, collection partners such as local authorities and retailers, and waste operators including informal sector

Quality and audit

Selection of the applicable standards which may be

- Mandated by regulation
- Selected by the producers, collective or PRO from existing standards
- Developed ad hoc for lack of relevant standard

Audit process in application of regulatory requirements or careful governance

- Supply audit

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4.5.2 Costing and Pricing

Costing is a key aspect of EPR compliance for producers, whether they source individually the services required for compliance or decide to join a PRO or a collective. Costs derive from the EPR model chosen by each country, which defines how compliance is to be delivered and what exact obligations fall upon obligated enterprises:

- For an individual system, it can translate into the procurement of collection and treatment services or the acquisition of a waste treatment certificate, without involvement in the supply chain
- Collectives and PROs need to transform the costs incurred to their members via an allocation mechanism which in the case of the PRO is often a service fee known as an EPR Fee

Costs incurred by PROs and collectives typically include the following:

1. Operation

Collection	Transport	Sorting
Recycling, recovery, disposal (minus material retrievables)	Collection equipment (such as bins)	

2. Independent bodies monitoring compliance (registry)

3. Overheads

HR	IT
Offices	Other

4. Provisions, guarantees, inter alia (if and as required by regulations)

5. R&D and technical studies

6. Education and information

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Operation costs are sometimes merged into a single purchasing price within a waste treatment certificate in outcome-based systems. Also, operations may yield raw material revenues for the collectives and PROs, in which case the cost to be allocated will be the net cost (cost incurred minus the raw material value).

While collectives may decide to proportionally divide the total cost between their members according to a cost-sharing formula, PROs are more likely to transfer their cost in the form of an EPR Fee.

There are two main pricing models available to a PRO

- The EPR fees are applied on the tonnage collected and treated (C/T) (this model corresponds to the acquisition of waste treatment certificates, for instance)
- The EPR fees are applied on the tonnage of products or materials placed on the market by the producer (POM)

POM
Price based on what is sold (product-driven)

- Easy to budget for producers (they know their sales projections)
- Supports PRO cash flow if billed in advance
- Price can drastically deviate from costs over time
- Volume risk for PRO

C/T
Price based on what is collected (waste-driven)

- Closer to reality in the field
- Can lead to lower costs (no buffer)
- May create cash-flow issues for the PRO in the initial stages
- Not budget- and control-friendly for producers
- Volume risk for producer

In either model, PROs and collectives need to identify cost allocation keys for apportionment of fixed costs and costs that cannot be directly assigned to a material. This requires a transparent approach, since allocation keys can drastically skew cost distribution and result in cross-subsidization or unequitable treatment of producers.

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4.5.3 EPR Fee Disbursement Mechanism



An EPR system funded by EPR fees collected from obligated producers will use such fees to pay for the activities described in **section 4.5.2**. EPR fees should reflect the actual foreseeable costs that the PRO will face to run its operations. The license or permits granted to the PRO by the relevant authority may prescribe certain disbursement rules or priorities, such as education and awareness, audits, etc., while most of the funds are typically directed towards waste collection and treatment. In such cases, the PRO may contract directly with waste collectors and processors, or with local authorities who own the contractual relationship with waste collectors and processors.

While the abovementioned EPR fee disbursement mechanism is very common, other models exist, for instance an outcome-based approach. In such models, PROs purchase evidence of waste treatment by acquiring waste treatment certificates, waste diversion certificates, evidence notes or similar. The EPR fees may then still include coverage of other costs, such as education and awareness campaigns, but visibility and control over the reverse chain may be reduced if they are not guaranteed through contractual or regulatory requirements.

However, outcome-based models may also operate without actual EPR fees collected from producers. In such instances, the transaction cost of each certificate is charged directly to the producer either by the waste operator emitting the certificate, or to the PRO acting as an intermediary. This is the case for instance in the Philippines and in India. The price paid is typically an amount per ton collected and treated, rather than an EPR Fee representing the cost per product or weight of products placed on the market. In such cases, there is limited control over the usage of the sales proceeds, especially if certificates are acquired directly by the producer from the waste operator.

Similarly, contribution to a fund (like in Viet Nam, with the Viet Nam Environment Protection Fund – VEPF) will lead to disbursement destinations and beneficiaries, as per the rules and principles for such disbursements laid out in the rules regulating the fund. Some funds may subsidize infrastructure and operations while other funds may focus on a single priority destination such as infrastructure development or recycling subsidization.

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4.5.4 Planning of Compliance Scheme Reporting Systems and Data Management

In addition to the functions performed by the EPR Registry, each EPR structure, be it individual or operated by a Collective or a PRO, needs to implement and run its own information system.

These information systems operate at a much more granular level than a registry, where the periodicity of registry reporting is most often yearly for waste collection and treatment data. The periodicity for reporting operations to EPR systems ranges from monthly at most down to daily or even real-time reporting.

PRO information systems are also usually designed to provide supporting documentation and traceability of waste flow to evidence activities and provide a basis for compliance recognition.

Data handled by PRO operational reporting systems may include

- Collection points serviced (with GPS coordinates if possible)
- Types of waste collected
- Quantities collected (per route, per day, per region)
- Contractor assigned to each route
- Cost of collection operations
- Waste flow traceability from collection to treatment
- Incoming quantities by material stream at the treatment facility
- Outgoing sorted materials (PET, HDPE, LDPE, etc.)
- Losses and contamination rates
- Identity of waste management facility operator and certification status
- Quality metrics of sorted fractions
- Sorting costs and contract terms
- Identity and license of recycling plants (domestic or export)
- Quantities received and recycled (per material type)
- Recycling efficiency
- End-product use (e.g., pellets, flakes, sheet, regranulate)

Additionally, PROs may be requested to report on their finances in cases where their operating license includes requirements such as:

- Capping of administration expenses
- Minimum expenditure in certain areas, such as education and information

More details about how this Compliance Scheme Reporting System can be introduced are provided under the Operation section, **chapter 4.6.1**, Introduction of Compliance Scheme Reporting and Traceability. The key tool for the planning stage is the “Reporting & Data Management Checklist”.

Click here for the toolkit

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4.5.5 Contracting



Documentation enables compliance verification, while formalized contracts align the participants in the EPR value chain. Contractual agreements with the waste reverse chain, from collection through to treatment and final disposal of residual waste, are central to both individual and collective systems. Minimum clauses may be requested by the regulator for such contracts, such as reporting granularity and periodicity, traceability requirements, applicable standards and performance of audits, inter alia. Contractual templates may also be required as part of the application for a license to operate an EPR system.

The need for a contract and the contractual content will depend on the type of cooperation between local authorities and EPR systems: whether the EPR Schemes take over part or all of waste management operations from the local authorities, or whether local authorities will continue to act as service provider to EPR schemes and receive payment in return.

In cases where compliance is secured through the acquisition of waste treatment certificates, the contractual scope of work would be simplified. PROs and, if applicable, collectives need to create membership contracts with producers to govern their relationship. Commitments described in such contracts systematically include the reporting obligation from producers, and may also include the right to audit the PRO (to verify accuracy of reported dates and, of course, the fee schedule and payment terms).

Other material contracts are those that regulate cooperation with local authorities. Such contracts are established to clarify roles and responsibilities in waste collection and, in certain cases, education and information.

Finally, retailers and professional users, such as businesses and administrations, may also offer or accept contracts with EPR systems to govern the terms and conditions of waste removal from their premises. Like local authorities, retailers may also be vested with responsibility for education and information, which could also be specified in the cooperation contract. In this particular case, it is advisable to specify quantifiable metrics such as the, number of campaigns, for example.

The accompanying Toolkit provides guidance on how to prepare operational service agreements, proposes a structure for PRO membership agreements and agreements with local authorities.

Click here for the toolkit

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4.6 Operation



The operation of an EPR system depends directly on the operational model chosen: individual or collective, financial or operational. Roles and responsibilities will differ and certain activities may be assigned to one type of participant in the system or another. The following section describes activities and practices that are commonly implemented to provide a robust and controlled EPR system. It will include compliance scheme reporting and auditing systems that ensure producers fulfilll their obligations while also tracking and eliminating free riders.

4.6.1 Introduction of Compliance Scheme Reporting and Traceability

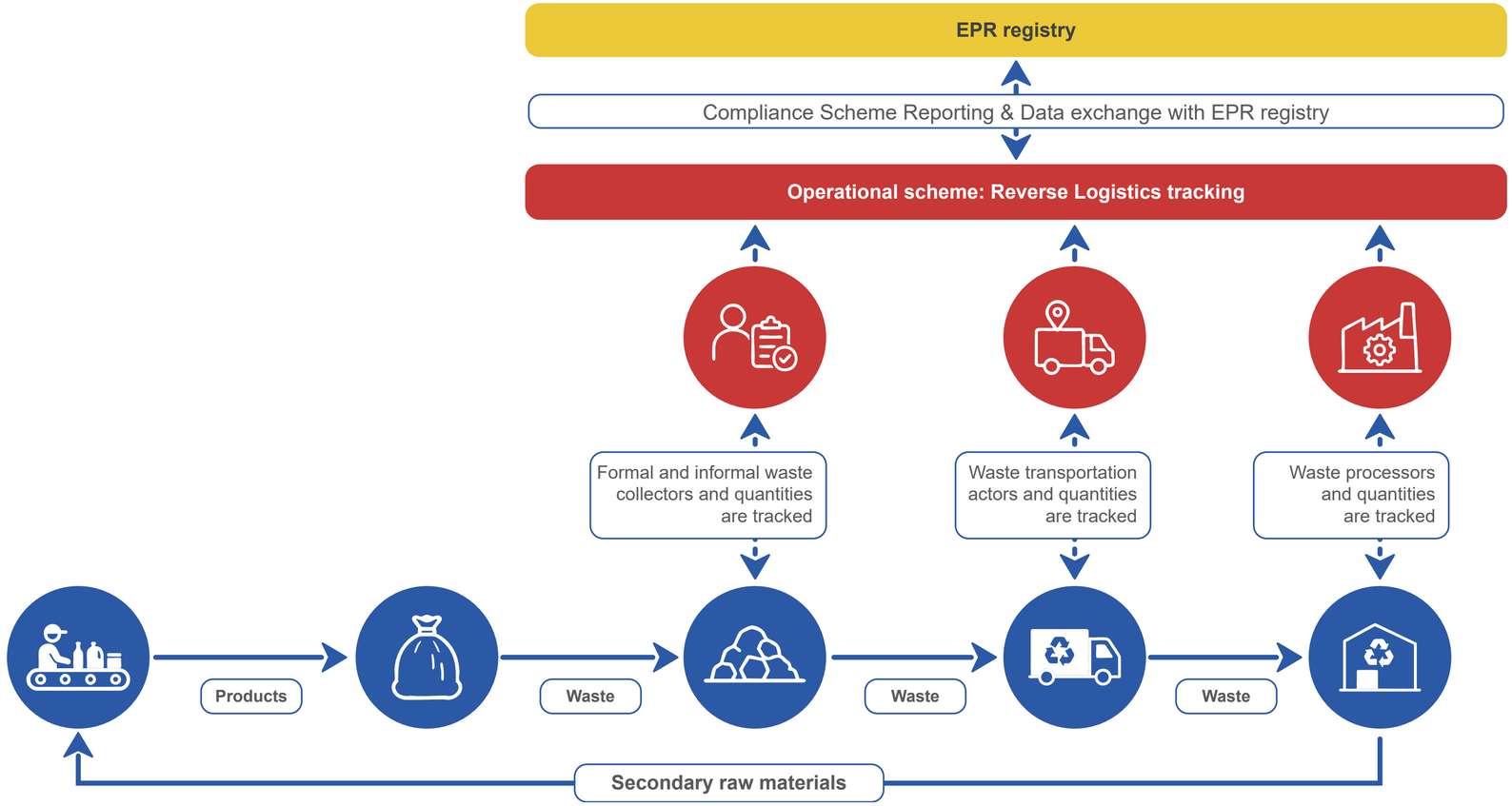
An operational EPR scheme is based on accurate data. Several types of operational data must be collected to obtain an overview of the activities on the ground and of their achievements. While producer information and data about the type and quantities of materials and products introduced on the market are collected and stored in an EPR registry (detailed description in chapter 4.3.6) operational information is generally collected by a compliance scheme tracking and reporting system.

Especially in the ASEAN region, where waste management activities are still facing challenges (details about waste management challenges in chapter 6) and the operations are not transparent, oversight of the operations is necessary.

To ensure that waste operations improve over time and that the amounts reported are actually collected and treated up to the required standards, the actors throughout the chain must be registered and the reverse chain must be tracked. A holistic operational tracking system would allow end-to-end material flow tracking, and the issuance of treatment certificates would be backed by real-time data from registered waste operators. A special focus should also be placed on the informal sector, where their activities, including the amount of waste they have moved, can be tracked through an app.

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Operational tracking and data collection



See also subsection 4.3.6 on EPR registry

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4.6.2 Auditing

Internal and third-party audits guarantee a functional EPR scheme without fraud. Robust EPR systems require auditing of both upstream and downstream actors, thereby allowing the verification and cross-checking of all received and obtained data. The Toolkit provides guidance notes on auditing procedures and a factsheet outlining the minimum qualification requirements of a credible auditing body.

Auditing of producers and producer data

The data provided by producers to the EPR registry or to the respective national entity in charge of producer data must be verified to confirm whether a) the amounts and product types declared are correct and b) whether targets have been achieved by the producer for the reporting period.

Auditing of producer data should go beyond the verification of financial books: audits should ensure that all products within scope are correctly identified and reported and that sales data, including returns, exports and volume figures, are accurate and consistent with internal records. The audit should confirm that calculation methods, IT systems and data-processing tools used to generate reportable quantities are functioning correctly. Particular attention should be given to the determination of unit weights, including whether weights are provided by manufacturers, independently measured, or sourced from product specifications, as well as whether these values are applied consistently and subjected to regular validation procedures. The correct application of plastic weights and accurate classification of materials (such as rigid versus flexible plastics) should also be systematically reviewed to avoid misclassification. Additionally, the audit should verify that weighing devices are properly calibrated, that updates to product portfolios are captured through a controlled and documented process and that any deviations in weight or quantity reporting are calculated and transparently recorded. This ensures that the producer's EPR reporting is complete, consistent and compliant with regulatory requirements.

The guidance on the important items to be considered within the audit process can be found in the Toolkit.

Auditing of waste operators

When auditing a waste operator, the verification process focuses on ensuring that collection and treatment certificates accurately reflect the actual waste volumes collected and processed. The audit should also verify the integrity and completeness of documents tracking the flow of collected and treated plastics and ensure that these records remain transparent and consistent over time. As part of this oversight, desktop mass balance checks[12] are required to verify that reported inputs and outputs align with operational realities. In addition, onsite assessments of the diverter's premises should be conducted, both at random and in a defined time frame (e.g. every three years, unless significant deviations are detected earlier), to provide direct confirmation that waste-handling practices, documentation and reporting systems meet regulatory and system requirements.

[12]Mass balance checks quantitatively compare all inputs received by a waste facility (such as collected plastic waste by type and tonnage) with all documented outputs, including recycled polymers, intermediate fractions, rejects and residuals sent for disposal. The check assesses whether the relationship between inputs and outputs is technically plausible given the facility's equipment, throughput capacity, typical yield rates and recorded losses. Significant discrepancies may indicate over-reporting of recycled volumes, under-reporting of rejects, unrecorded material flows, or inaccurate documentation.

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Auditor qualifications

Auditor qualifications ensure that audit teams possess the competence, experience and integrity needed to carry out reliable and credible assessments. Auditors must meet eligibility criteria to ensure independence and professional competence, supported by relevant academic and auditing experience. There must be mandatory training on legal, contractual and technical requirements, regular examinations and performance evaluations. Advanced tools and software use are an added value.

The appointment of the auditor shall be carried out according to a publicly available list of qualified auditors and audit companies. The final team composition is agreed upon based on person-day requirements or a package lumpsum and audit scope. Ongoing performance evaluation, such as witness audits (a form of performance evaluation in which an auditor's work is directly observed by an authorized reviewer), technical review of audit packages and examination results after new training, are all measures that further ensure that auditors maintain and continuously improve their skills.

Country example: Auditing system in the Philippines

In the Philippines, compliance with the EPR system by the obligated companies is monitored through the EPR Compliance Audit Reports (ECARs), which are to be submitted annually by independent auditors.

The EPR Compliance Audit Reports must include:

- Reference year
- Summary of "accountable plastic packaging footprint"
- Summary of plastic waste diverted/recovered
- Actual plastic waste diversion/recovery accomplished and other relevant data

Other requirements:

- The auditor must be a certified public accountant (CPA) and must not be an employee or affiliate of the reporting entity.
- The deadline for ECAR submission is 30 June (or first working day after) of the year following the reporting year.
- Failure to comply (no registration, missing ECAR, misreporting, etc.) can lead to substantial fines: First offense ₱5 million to ₱10 million (USD 84,950 – 169,900); second ₱10–15 M (USD 169,900 – 254,850); third ₱15–20 M (USD 254,850 – 339,800) plus possible suspension of business permit.
- Currently, the Department of Environment and Natural Resources (DENR) is developing a concept for an effective audit system that ensures accurate assessment of the ECARs as well as the independence and adequate qualification of the auditors.

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4.6.3 Free Riders

In an EPR system, **free riders are producers who place products or packaging on the market but fail to register, report or contribute financially to the system**.

Further information on the EPR registry and registration and declaration obligations are found in chapter **4.3.6 - EPR Registry**

Identifying free riders is a challenging activity and involves comparing data from multiple sources, such as customs records, retail and distributor listings, import databases and sector registries, with the official list of registered producers. Additional indicators include products found in stores or online platforms without corresponding producer registration, inconsistencies in brand ownership declarations, or unusually low reported volumes from registered producers that do not match their market presence. By systematically cross-checking these data points, enforcement authorities can detect free riders and ensure that all obligated producers participate equitably in the EPR system.

In the ASEAN region, informal producers who operate outside formal regulatory structures can be especially challenging and act as free riders. These actors may manufacture, import, or distribute products without registering as producers in the EPR registry, thereby avoiding EPR obligations while still contributing to waste generation. Identifying such free riders requires close cooperation with local authorities, customs agencies, and industry associations, as well as targeted market surveys to map informal production and distribution networks. Enforcement methods such as fines and penalties for non-registration and non-compliance should be considered.

Further guidance can be found in **the Toolkit**

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4.7 Continuous Improvement



Continuous improvement may be considered as the final phase of any EPR implementation. Regular monitoring of system performance combined with thought-through adjustments help governments ensure that EPR systems evolve in response to target achievement, infrastructural development, new technologies, stakeholder feedback and changing market conditions. This chapter takes a closer look at what aspects shall be considered during the EPR performance assessment and what forms the remediation actions can take. It also emphasizes the necessity of incorporating EPR stakeholders' data and feedback and the importance of their involvement in the improvement process.

4.7.1 Performance Assessment

Every EPR scheme that has been operating for a given period needs to be assessed and its performance on different levels needs to be evaluated.

The following indicators might be considered:

Environmental Performance Indicators

Collection & Recycling performance

- Collection rate of EPR-covered products (Percentage of total placed-on-market)
- Recycling rate of collected materials
- Percentage of material recovered that is high-quality

Waste Generation & Reduction

- Reduction in waste generation over time
- Percentage of non-recyclable or hard-to-recycle materials placed on the market

Environmental Impact

- GHG emissions avoided due to recycling and reuse
- Energy savings from recycled vs. virgin material use
- Reduction in pollution and litter (marine and terrestrial)

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Social Performance Indicators

Impact on Workforce

- Number of jobs created in collection, sorting, recycling sectors
- Working conditions & health/safety compliance in the waste sector
- Inclusion and formalization of informal waste workers
- Fair inclusion of woman
- Fair distribution of EPR benefits among stakeholders (LGUs, cooperatives, recyclers)

Equity & Accessibility for Communities

- Acces to collection points across rural and urban areas

Financial & Market Indicators

Market Development

- Investment in recycling infrastructure (CAPEX & OPEX)
- Price stability and market demand for recycled materials
- Revenue generated from selling recyclables
- Ratio of EPR fees collected vs. fees disbursed

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Infrastructure & Technological Indicators

Collection & Sorting Infrastructure

- Number and distribution of collection centers
- Availability and capacity of material recovery facilities (MRFs)
- Sorting efficiency (contamination rate of input materials)

Recycling Technology & Capacity

- Installed recycling capacity vs. actual utilization
- Availability of advanced technologies (chemical recycling, digital traceability, etc.)
- Rate of leakage to informal or illegal waste channels

Governance & Compliance Indicators

Regulatory Performance

- Compliance rate of obligated producers and importers
- Timeliness and accuracy of reporting to authorities
- Number of enforcement actions (penalties, warnings)
- Transparency of PRO governance and decision-making

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4.7.1 Performance Assessment

Assessments require consistent reporting from producers, PROs and authorities, supported by digital data systems and traceability tools. As the entities required to comply with the regulations, they are well positioned to provide practical insights and relevant data during monitoring and evaluation, thereby strengthening the effectiveness and evidence base of the process. While some ASEAN countries (e.g., Viet Nam, Philippines) have begun collecting relevant data, information remains fragmented across the region and limited in countries with less developed waste systems. Strengthening technological capacity, such as digital registries and data management tools, alongside building human expertise in auditing, monitoring and system oversight is essential to ensure accurate performance evaluation and effective EPR implementation.

Country example:
GHG emission reduction assessment in the Philippines

The Philippine government is keen to understand and assess the environmental impacts of the EPR law. One aspect focuses on the analysis of the reduction of greenhouse gas (GHG) emissions associated with the EPR system. For plastics, the direct GHG reduction benefits of landfill diversion may be relatively limited because most conventional plastics do not biodegrade in landfills. The overall climate impact therefore depends largely on the balance between emissions generated through collection, transportation and recycling activities and the emissions avoided through the displacement of virgin plastic production. The Department of Environment is currently developing a methodology for the GHG reduction calculation.

Further guidance can be found in **the Toolkit**

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4.7.2 Remediation

Remediation mechanisms are essential for correcting underperformance within an EPR system and ensuring that targets, responsibilities and operational requirements (such as standards) remain achievable, yet ambitious, over time. When monitoring and evaluation reveal shortcomings in waste collection and recycling, inaccurate reporting or ineffective cost allocation, regulators and PROs/Collectives should intervene to achieve the intended objectives of the EPR system.

Remedial actions can take multiple forms. **Financial adjustments** may include recalibrating EPR fees, increasing fines for persistent non-compliance, or ring-fencing funds to upgrade collection systems or support recyclers. **Operational changes** may involve revising collection plans, adjusting material-specific strategies, expanding partnerships with local governments or waste operators, or requiring PROs to strengthen data systems and quality assurance processes. Where gaps stem from outdated rules or unintended regulatory effects, **regulatory revisions** may be necessary. This may include clarifying provisions and providing more guidance to producers and PROs, or amending EPR targets or timelines to reflect practical conditions on the ground.

ASEAN countries, like all other countries implementing EPR, must be prepared to revise and adapt their frameworks order to refine the system quickly. Recent experiences in the several ASEAN Member States showed that EPR regulations may undergo revisions to meet the objectives that the regulators have set.

Regulatory updates in the Philippines and Viet Nam

The Philippines did not stop EPR implementation with the publication of the EPR Act in 2022. Over a short period of time, the country continued its efforts with Implementing Rules and Regulations (2023) and Compliance Reporting and Audit Guidelines (2024). The country drafted an EPR Procedural Manual (2025) that is currently undergoing consultations, passed an Administrative Order on fees for the registration of EPR programs (2025) and drafted a Joint Administrative Order providing detailed guidelines on benefitting from fiscal incentives in line with the EPR Act (2025, undergoing consultations).

Viet Nam has similarly adopted supplements and revisions to its EPR framework since the Law on Environmental Protection (LEP) was passed in 2020: in 2022, it passed Decree No. 08/2022/ND-CP and Circular No. 02/2022/TT-BTNMT providing detailed guidance on the implementation of specific provisions of the LEP; via Decision No. 252/QD-BTNMT published in 2023 the EPR Council was established; and Decree 08/2022/ND-CP has already been amended by another Decree and Circular, both published in 2025. In addition, in May 2025, the Ministry of Agriculture and Environment announced that it is drafting a separate Decree that will only contain the EPR provisions.

To support practitioners, the Toolkit provides guidance on practical steps for designing and applying remedial measures, selecting appropriate interventions.

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4.7.3 Grievance Redress Mechanism

An effective Grievance Redress Mechanism (GRM) is an indispensable tool allowing for continuous improvement of EPR systems. GRM provides all EPR stakeholders with a clear pathway to report non-compliance, raise concerns and seek clarification on regulatory or operational issues. A GRM for EPR should define who can submit grievances, what types of issues can be raised and which authority or body is responsible for addressing them (e.g., public authority, PRO or an accredited external auditor). There must be clear procedures established to receive, screen, assess and respond to complaints, with realistic timelines and guidance on required evidence. All EPR actors should have access to a predictable and fair process.



For public authorities, the GRM should include channels to report regulatory breaches, concerns about PRO performance (e.g., contract disputes, EPR fee calculation, management of funds collected, target achievement, etc.), disputes among producers (anti-competitive behaviors) and allegations of free-riding, non-compliance or fraud.



For auditors, the mechanism should support reporting for the verification of producer, PRO and waste operator data, conflicts of interest or material inconsistencies observed during audits. Regulators should ensure that grievance handling does not interfere with the auditor's independence.

GRM should entail regular analysis of grievances to identify structural weaknesses, recurring issues or ambiguity in the EPR regulations. Trends observed (without disclosing confidential or commercially sensitive information) can inform regulatory updates, address capacity-building needs and introduce operational improvements within EPR systems. A well-designed GRM strengthens transparency, ensures fairness and instills trust and accountability, ultimately reducing disputes and helping to maintain the integrity of the EPR framework.

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4.7.4 Dialogue Platform

To sustain and improve an existing EPR scheme, ongoing stakeholder consultation should be organized to share learnings, discuss gaps and review the framework. This could take the form of a dialogue platform.

In order to have an inclusive discussion, it is advised that the dialogue encompass a balanced number of participants from the different stakeholder groups, including government authorities, producer responsibility organizations (PROs), producers, waste management operators, civil society and academia. The meetings can be carried out in standard meet-ups, or may be required by law and organized in a more formal manner. In many countries, this is embodied in an EPR Advisory Board or a similar entity convened on a regular basis (e.g., biannually or annually).

Potential discussions may cover the EPR system achievements, possible modifications required and any challenges encountered. Typical topics addressed through such platforms therefore include:

- Review of system performance and progress toward EPR targets
- Discussion of operational challenges and bottlenecks
- Lessons learned from implementation
- Proposed adjustments to the regulatory or operational framework
- Emerging priorities requiring coordinated action

Further guidance can be found in **the Toolkit**

Generally, dialogue and exchange take place at the national level, yet regional approaches would also be beneficial. Under the SEA-MaP Project, a Regional Platform for Knowledge and Partnerships is currently being developed that could serve as a regional exchange coordination body. Other options include the ASEAN Business Advisory Council and Joint Business Councils.

Country example: EPR Council in Viet Nam

In Viet Nam, the National EPR Council advises and assists the Minister of Agriculture and Environment in managing and supervising producer and importer obligations under the Viet Namese EPR framework. It operates collectively, decides by majority rule and is supported by a part-time Assistance Office located within the Ministry of Agriculture and Environment.

It is established by the Minister of Agriculture and Environment under Decree 08/2022 and Decision 252/QD-BTNMT (2023), which define the Council's functions and organization and the role of its Assistance Office.

The National EPR Council is composed of the Ministry of Agriculture and Environment (formerly MONRE), the Ministry of Finance, the Ministry of Industry and Trade, the Ministry of Health and the Ministry of Agriculture and Environment (formed by the merger of the former Ministry of Agriculture & Rural Development with Natural Resources & Environment). The Council also includes representatives of producers and importers, representatives of recycling service providers and waste-treatment service providers, as well as representatives of relevant social and environmental organizations.

The National EPR Council is supported by an Assistance Office located within the Ministry of Agriculture and Environment, operating on a part-time basis.

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- Recommendations for AMS at Initial Stages of EPR Development

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5 Recommendations



This chapter provides practical recommendations for EPR implementation and enforcement in the ASEAN region. Specific recommendations to AMS representing different EPR implementation stages are provided. Subsequently, suggestions are provided on how ASEAN can play an integrator role and how the countries can work together to synergize their efforts.

5.1 Scenario-specific Recommendations

ASEAN countries, with their different experiences and outcomes in implementing EPR, are currently at three different EPR-maturity levels:

- Countries with EPR regulations implemented and enforced
- Countries with EPR regulations planned or in planning
- Countries at initial stage of EPR development

As such, these three AMS groups may benefit from more tailored recommendations adjusted to their varying challenges and needs. This section provides recommendations that are tailored to this specific EPR readiness status.

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5.1 Scenario-specific Recommendations

5.1.1 Recommendations for AMS with EPR Regulations Implemented and Enforced

Suggestion: Although substantial progress has been made and several ASEAN countries have adopted EPR regulations, implementation remains uneven across the region. While some ASEAN countries have yet to establish comprehensive EPR systems, others continue to encounter challenges related to implementation and enforcement. As such, EPR roll-out remains an iterative process requiring continuous refinement and adaptation.

It usually takes years before implementation can be considered complete and, even then, adjustments and updates never cease to be necessary (as is the case in France, Germany, the UK, India, inter alia).

For the **ASEAN countries** who have published EPR regulations and are mandating producers to comply, the challenge is no longer about whether to regulate, but about making the system work better, faster and more credibly.

Therefore, it is crucial to combat non-compliance, enforce the penalties prescribed in laws and continuously monitor and evaluate the implementation process to check whether the new system is meeting the intended purposes.

The verification should help answer questions such as:

- Are the objectives of the regulations being achieved? If not, what are the deviations and what could be causing them?
- Are the collection and recycling targets accurate or too low/too high? How can they be adapted to better match the current reality?
- Is the data reported through the EPR Registry reliable and trustworthy? If not, is the auditing process robust and sufficient?
- Are there any loopholes spotted? Can they be corrected with relatively simple regulatory revisions?

Regardless of the answers to the above questions (for more information, please see **the Toolkit**), EPR regulations need to be periodically reviewed.

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5.1.1 Recommendations for AMS with EPR Regulations Implemented and Enforced

This helps to amend and update targets, eliminate loopholes, expand the scope to new waste streams and, potentially, increase the number of obligated entities (e.g., inclusion of SMEs). While reviewing the framework, maintaining active communication with stakeholders and incorporating their feedback shall be of essence as various EPR actors may have very helpful and legitimate views and opinions.

From another perspective, ASEAN countries with implemented EPR regulations could play a leading role in sharing successful mechanisms, lessons learned, tools, and information at a regional level. These ASEAN countries are encouraged to participate actively in ASEAN EPR platforms, working groups, and initiatives in general.

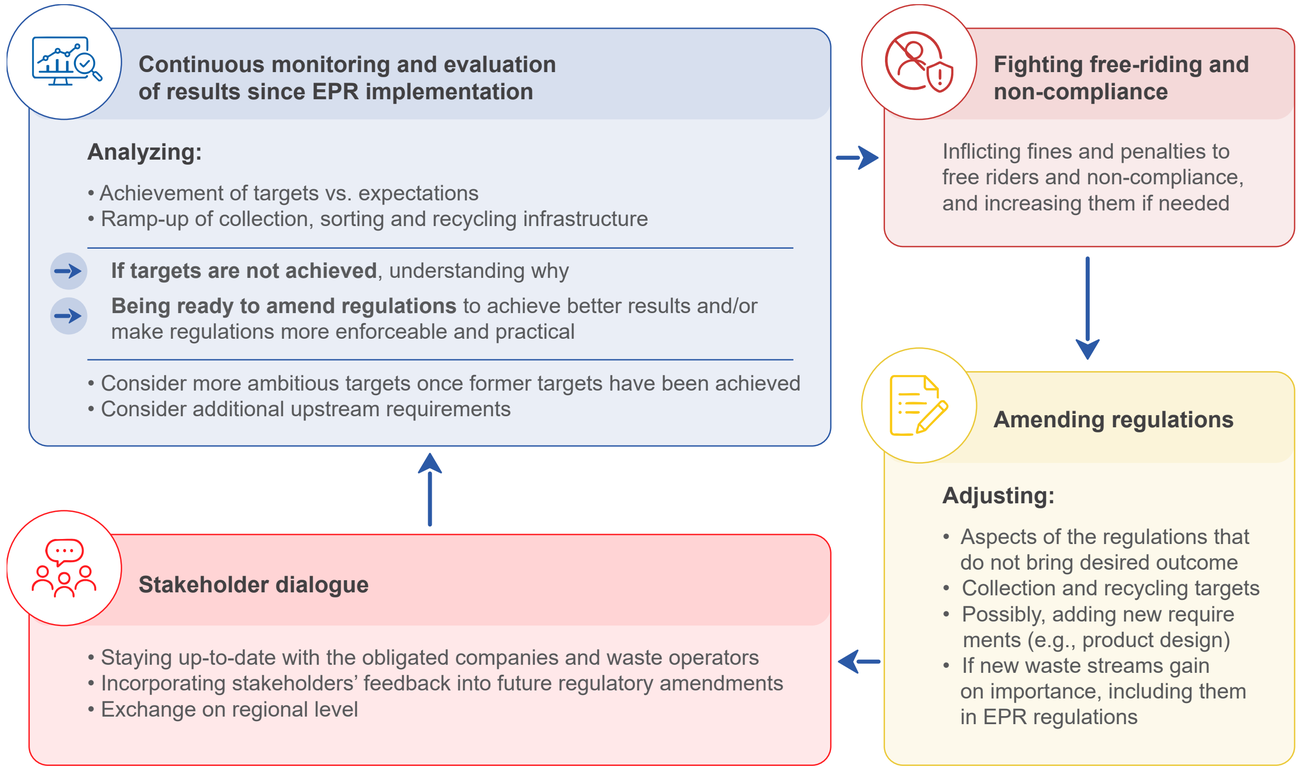
For ASEAN countries at this stage, steps:

- **4.3.6 EPR Registry**
- **4.4.2 Penalties**
- **4.6 Operation**
- **4.7 Continuous Improvement**

from chapter 4 are of the most interest.

The below recommendations displayed in a flow chart pertain to countries with EPR regulations already published and enforced.

Recommendations for action steps for AMS with EPR regulations implemented and enforced



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5.1.2 Recommendations for AMS with Regulations Planned and in Planning

For the ASEAN countries that are planning or preparing EPR regulations, it is crucial to get the fundamentals right before they become law because decisions taken at this stage might be very difficult or costly to retrofit later. Here, of high priority is stakeholder dialogue to agree on key definitions and targets.

Plan for an EPR registry and associated standardized data collection tools and only then develop a legal framework. The ultimate goal of this stage is operationalization, i.e., publication and enforcement of EPR regulations with transitional periods while shifting from voluntary (if existing) to mandatory systems.

ASEAN countries at this stage are advised to focus on steps **4.3 Design** **4.4 Regulation and Enforcement** and **4.5 Implementation** from chapter 4, paying special attention to the following matters:

- Alignment of definitions with existing national waste laws and customs regulations to avoid inconsistency
- Mandatory registration and reporting by producers and, preferably, also waste operators to understand the baseline scenario and set accurate targets
- Linking EPR reporting to tax and customs databases where possible in order to identify the obligated entities and reduce under-reporting
- Ensuring that the planned EPR system is sufficiently funded, i.e., that the real cost of collection, sorting and treatment of waste, together with monitoring, enforcement and raising awareness, is covered
- If eco-modulation will be implemented from the outset or phased in
- If the private sector should assume 100% responsibility for collection of packaging within household waste or should part of it remain within public hands (municipalities)
- Taking a decision on compliance modalities (e.g., whether individual compliance shall be allowed) and if there will be a monopolistic or competitive PRO market
- Mapping existing reverse value chains (both formal and informal),
- Ensuring that the informal sector is not excluded from the system, that it can be integrated and/or gradually formalized without decreasing benefits of pickers
- Filling gaps, if any, in the coherence and standardization of EPR-relevant data collected
- Investing in capacity building for the regulatory bodies

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The below figure shows recommendations for ASEAN countries that are planning or preparing EPR regulations:

Recommendations for action steps for AMS with EPR regulations planned or in planning

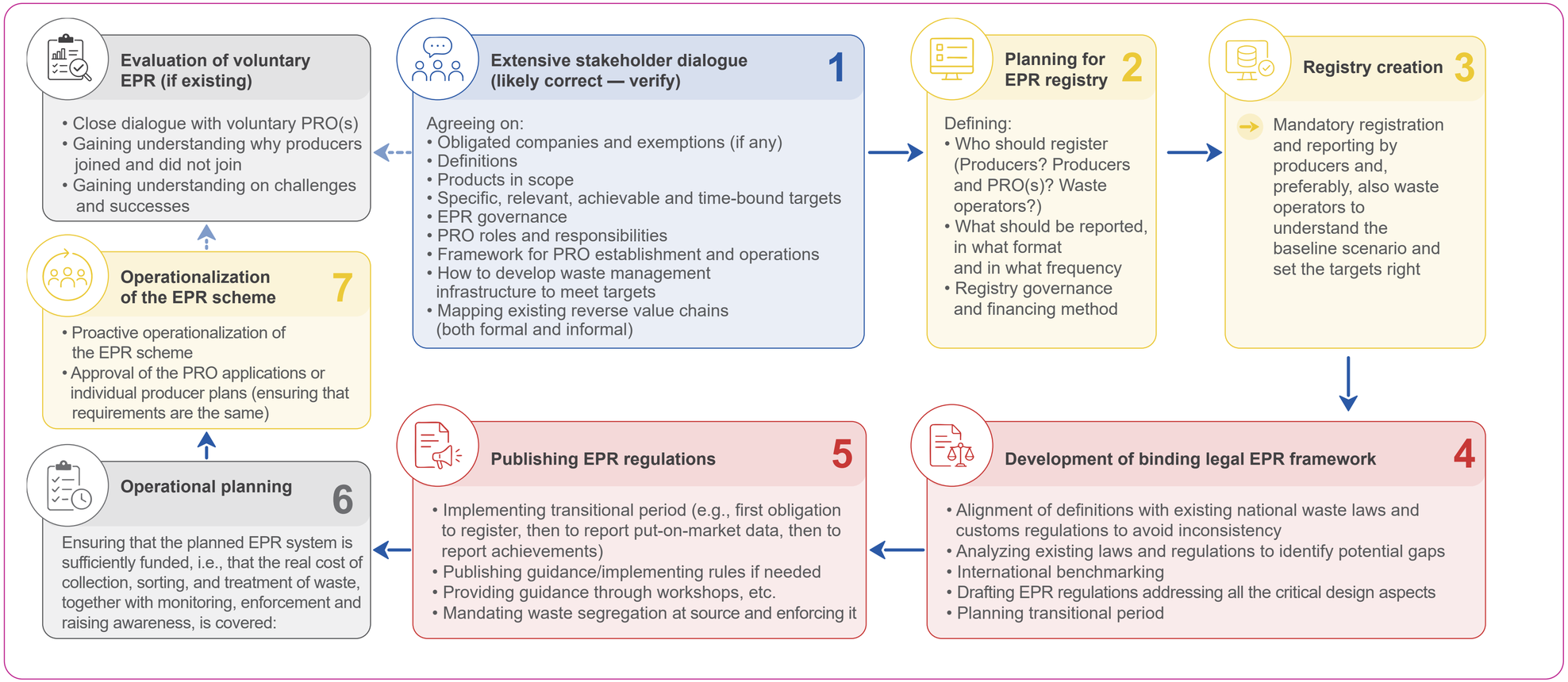


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5.1.3 Recommendations for AMS at Initial Stages of EPR Development

ASEAN countries at initial stages of EPR development, i.e., countries that have not yet drafted or are not in the process of drafting EPR regulations, are advised to approach EPR as a policy reform process rather than a legislative drafting exercise. This could prevent them from rushing into legislation before solid foundations are built, i.e., implementing EPR without stakeholder alignment, capacity building, baseline analysis or overall institutional readiness.

The recommendations include:

- Conducting a baseline analysis to understand key waste streams, their issues, available volumes and the existing waste management infrastructure
- Defining which waste streams and materials will be covered under EPR and setting clear objectives, such as increasing recycling rates and reducing landfill dependency
- Identifying and mapping key stakeholders to align on the EPR concept and agree on a timeline and objectives
- Building a shared understanding of what EPR is and what it does not do to avoid misconceptions being locked into design choices
- Encouraging voluntary EPR initiatives and pilot programs to build understanding and address the identified challenges
- Aligning with policies and definitions close to those in ASEAN and other countries, studying both successes and failures and prioritizing countries with similar economic development, geographical nature, share of informal sector and trade profile
- Developing an EPR implementation stepwise approach to guide ASEAN countries with planning and transition

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ASEAN countries who are at initial stages of EPR implementation are advised to focus first on steps **4.1 Inception** **4.2 Scoping** and then **4.3 Design** explained in chapter 4.

The below recommendations pertain to countries that are either at the stage of circular economy/ plastic policies or are even less advanced with their legislative frameworks:

Recommendations for action steps for AMS at initial stage of EPR development

1 Baseline analysis

Understanding
- What waste streams and what materials or products within an identified stream are of particular concern
- Why the identified waste streams constitute the problem (littering, lack of value, not recyclable, hazardous, etc.)
- The scale of the problem (volumes put on market, volumes of waste generated, collected and treated)
- The existing waste management landscape and infrastructure

2 Stakeholder mapping

- Defining main ministries and public agencies that should be involved in EPR
- Mapping of main private sector actors (producers, collectors, recyclers)
- Mapping of informal actors
- Defining other actors that should be invited to the dialogue (associations, NGOs...)

3 Stakeholder engagement and first developments

- Initial alignment on EPR concept
- Planning of EPR enforcement date
- Defining ways forward (next steps)
- Encouraging voluntary EPR to learn the system and understand the challenges
- Establishing a working group
- Aligning to policies and definitions close to those in AMS and other countries, studying both successes and failures and prioritizing countries with similar economic development, geographical nature, share of informal sector and trade profile

4 Defining waste streams to be covered with EPR

- One stream or more?
- In case of packaging: only plastic packaging or all materials?

5 Defining objectives of EPR

- Ringfencing funding for waste management?
- Increasing collection and recycling rates?
- Reduce dependency on imports / virgin materials
- Diverting waste from landfills?
- Developing infrastructure?
- Increasing employment?
- Product bans?
- More sustainable product design?

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5.2 Regional Recommendations

The ASEAN region has made significant progress in advancing national EPR frameworks. As shown in **subsection 5.1**, ASEAN countries are at three different EPR implementation stages. Individual countries can progress separately, at their own pace and according to their own priorities and local needs. However, a fully individual approach with no regional alignment could effectively lead to diverse EPR frameworks, resulting in increased compliance complexity and administrative burden for producers selling in multiple ASEAN countries. It could also reduce possible regional synergies for both producers and recyclers. For this reason, a coordinated yet flexible approach is recommended, especially considering that circular economy goals cannot be easily achieved by one or a few countries in isolation.

The regional coordination could provide several benefits, beginning with a reduction in regulatory fragmentation and administrative burden, which is critical for companies operating in more than one ASEAN country.

- Alignment could encompass regulated products/materials included in scope, common definitions, minimum acceptable standards, collection and sorting guidelines, recycling targets, minimum recycled content requirements for plastic packaging and product labeling.
- Common definitions for obligated producers, coherent reporting formats and methodologies and enforcement could also be considered.
- Regional coordination promotes economy of scale on the recycling and recyclables markets. Greater transparency and comparability improve monitoring and evaluation and encourage investment.
- Finally, it promotes regional cooperation to tackle transboundary waste leakage, contribute to the protection of shared water bodies and support information sharing, knowledge exchange, and capacity-building efforts across ASEAN.

The general recommendations below outline how ASEAN can act as an integrator to support alignment, cross-border cooperation and shared systems while respecting national sovereignty and the principle of voluntary alignment that underpins ASEAN cooperation.

Recommendation	Sub item
Promote Progressive Alignment of Key EPR Concepts	• Coherent Definitions and Scope • Alignment of Key Policy Elements (scope, definitions, roles, responsibilities) • Incorporating Quantitative and Measurable Collection and Recycling Targets • Adopting Good Practices According to Each AMS' EPR Implementation Stage
Foster Interoperability of EPR Systems and Regional Data Exchange	• Shared or aligned Data-Collection Mechanisms & KPIs • Regional Knowledge Platform • PRO or Registry Interoperability • Coherent Reporting Formats and Data Structure
Strengthen Regional Standards and Marketability of Recyclables	• Regional Standards for Recycling, Recycled Content and Reusable Packaging • Mutual Recognition of Eco-labels and Claims • Refinement of Trade Classifications • Promote Circular Product Design Across ASEAN
Strengthen Institutional Capacity and Enforcement	• Institutional Capacity-Building • Enhancing Enforcement Capabilities
Support Gradual EPR Implementation in Diverse Infrastructure Contexts	• Mobilizing Private Investment • Supporting the Informal Sector
Enhance Cross-Border Cooperation to Support Circular Trade	• Facilitate Safe and Transparent Regional Movement of Recyclables • Support Regional Recycling Hubs

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The above recommendations can be grouped into three phases (short-term, mid-term and long-term):

Opportunities for regional coordination of EPR in ASEAN - a phased approach

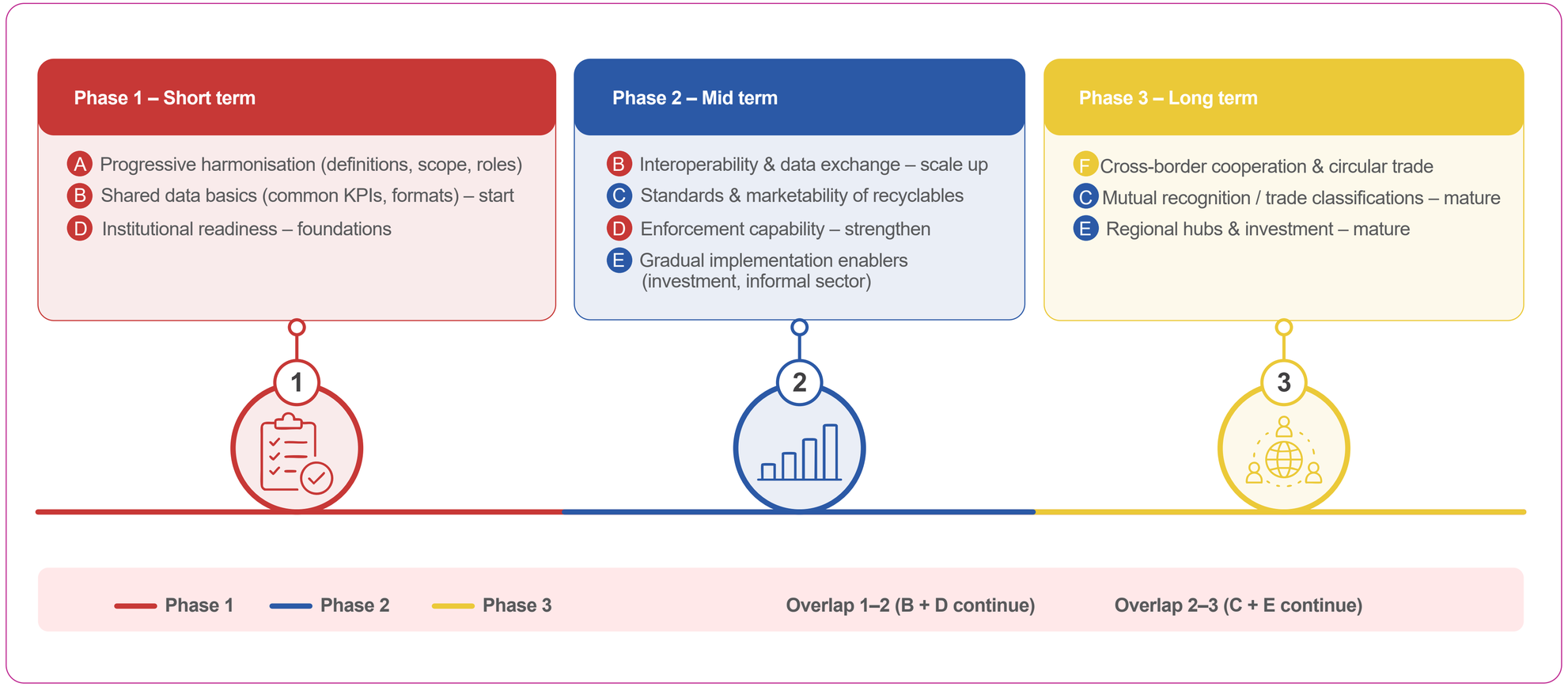


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5.2.1 Phase 1: Short-term (getting started and reaching for the low-hanging fruits)

In Phase 1, ASEAN could focus on creating a common language, baseline coherence and basic system comparability across ASEAN countries, which would enable coordination to address infrastructure gaps and would not require high investments. This phase consists of the following steps.

Phase 1 includes step A (promotion of progressive alignment of key EPR concepts), step B (fostering interoperability of EPR systems and regional data exchange) and step D (strengthening institutional capacity and enforcement).

A. Promote Progressive Alignment of Key EPR Concepts

Given the varying stages of EPR implementation, ASEAN can support the gradual convergence of core EPR design elements, allowing space for ASEAN countries to adapt approaches to their national contexts. A shared understanding of fundamental concepts will reduce compliance uncertainty for producers, enhance data comparability and facilitate future cross-border collaboration.

Aligned Definitions and Scope

ASEAN can develop a regional reference framework that aligns key definitions (e.g., producer, packaging types, recycling, waste collectors), priority material scope and roles and responsibilities.

This framework would act as a regionally agreed reference for AMS and support consistency across national regulations, allowing for comparability and consistency without compromising national sovereignty.

Alignment of Policy Elements

While regulatory authority remains national, ASEAN can encourage alignment of:

- Upstream product-policy elements such as recyclability criteria, reuse-readiness criteria and design-for-durability requirements, with common or mutually recognized technical standards
- Reporting and registration requirements
- Traceability and data standards
- Fee-setting principles, including transparent EPR fees that cover net costs as recommended by the EU-ASEAN Business Council (waste-management costs, administrative expenses, communication and awareness activities and social-inclusion measures such as integration of informal workers)
- Minimum performance indicators

Such alignment will support predictability for regional producers and reduce administrative burden.

In the longer term, ASEAN could also promote alignment with emerging obligations under the Global Plastics Treaty, helping AMS to cascade treaty measures into national frameworks.

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5.2.1 Phase 1: Short-term (getting started and reaching for the low-hanging fruits)

In Phase 1, ASEAN could focus on creating a common language, baseline coherence and basic system comparability across AMS, which would enable coordination in the context of infrastructure gaps and would not require high investments. This phase consists of the following steps.

Therefore, Phase 1 assumes the launch of steps A (promotion of progressive alignment of key EPR concepts), B (fostering interoperability of EPR systems and regional data exchange) and D (strengthening institutional capacity and enforcement).

A. Promote Progressive Alignment of Key EPR Concepts 2/2

Incorporating Quantitative and Measurable Collection and Recycling Targets

ASEAN and AMS can align on the formulation of quantitative, sector-specific collection and recycling targets within EPR frameworks that are adjusted to capacity, while building on the recommendations of the EU–ASEAN Business Council. This could help ensure consistency across ASEAN countries and provide a clear basis for monitoring performance.

Adopting Good Practices According to Each AMS' EPR Implementation Stage

ASEAN and AMS can draw on the principles and practices outlined in Chapter 4 by tailoring the application of EPR concepts to each Member State's level of system maturity, ensuring gradual and context-appropriate adoption rather than uniform requirements.

B. Foster Interoperability of EPR Systems and Regional Data Exchange (start)

EPR systems in ASEAN will increasingly interact with regional supply chains. ASEAN can facilitate interoperability without compromising national data protection rules. In Phase 1, ASEAN countries could start with data foundations:

Shared Data-Collection Mechanisms and Metrics

ASEAN may promote a common set of voluntary metrics, such as:

- Producer registration rates
- Collection, recycling and handling rates
- Share of producers under a PRO
- Rural coverage of EPR-funded services
- Formalization indicators, such as number of formalized entities and registered members
- Share of women in formal jobs and leadership positions in the EPR value chain

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5.2.1 Phase 1: Short-term (getting started and reaching for the low-hanging fruits)

D. Strengthen Institutional Capacity and Enforcement (start)

Effective EPR implementation depends on adequately empowered institutions. ASEAN can promote regional peer learning and resource mobilization by providing a platform to share tools and ideas and create an active exchange network.

In Phase 1, AMS could focus on establishing core institutional arrangements to enable EPR systems to function. Over the short term, the activities could include capacity-building.

Institutional Capacity-Building

Capacity-building programs can target:

- National and local enforcement agencies
- SMEs and waste operators
- PRO oversight units
- Informal sector actors transitioning to formal systems

At the regional level, ASEAN, through the ASEAN Secretariat, existing working groups or an ASEAN-led technical platform, can coordinate the development of shared tools and training materials that ASEAN countries may then adopt and apply nationally.

Activities may include technical standards, targeted training and regional peer-learning exchanges, as well as support for national coordination on enhanced data systems for tracking plastic packaging flows. Beyond government agencies, it can also be beneficial to provide training and strengthen information sharing for waste operators, SMEs, informal workers, producers and brand owners.

These regionally developed materials could cascade into national implementation through adoption by relevant ministries or national EPR authorities, allowing ASEAN countries to tailor the guidance to local regulatory contexts.

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5.2.2 Phase 2: Mid-term (system building and market strengthening)

The objective of Phase 2 is to operationalize systems and make data/markets work across borders in a practical way. This phase could include continuation of steps B (fostering interoperability and regional data exchange) and D (further strengthening of institutional capacity and enforcement) as well as start of steps C (initiation of standards) and E (supporting EPR implementation in diverse infrastructure contexts).

B. Foster Interoperability of EPR Systems and Regional Data Exchange (continuation)

EPR systems in ASEAN will increasingly interact with regional supply chains. ASEAN can facilitate interoperability without compromising national data protection rules. In Phase 2, continuation of step B could encompass:

Shared Data-Collection Mechanisms and Metrics (continuation)

A regional plan could align on how ASEAN countries progressively align data-collection practices on key elements of the plastic waste value chain, including:

- Proportion of obligated producers registered in the EPR system
- Proportion of companies achieving collection and recycling targets
- Proportion of consolidated POM reported under EPR obligations
- Proportion of packaging sold with recycled content (packaging with recycled content ÷ POM)
- Proportion of packaging formats meeting minimum recycled-content thresholds
- Collection rate for plastics packaging (collected amounts ÷ POM)
- Yearly recycling rate for plastic packaging (recycled amounts ÷ POM)
- Recycling yield (recycling output ÷ collected input)
- Gender-disaggregated participation in leading positions in the plastic waste field and in collection, sorting and recycling roles to support inclusive monitoring frameworks
- Number/percentage of informal workers formalized under EPR (upon agreeing on what “formalization” entails)

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5.2.2 Phase 2: Mid-term (system building and market strengthening)

B. Foster Interoperability of EPR Systems and Regional Data Exchange (continuation)

Regional Knowledge Platform

Building on currently developed or already existing mechanisms such as the Regional Platform for Knowledge and Partnerships within the SEA-MaP or ASEAN Regional Knowledge Hub on Marine Debris, ASEAN can expand knowledge exchange on:

- Data management methodologies and data collection mechanisms
- Monitoring tools
- Training materials
- Lessons learned from national EPR implementation, including experiences with awareness-raising campaigns

This platform can evolve into an information backbone for future regional EPR linkages.

Registry Interoperability

ASEAN may explore mechanisms to enable future interoperability between national registries (i.e. common data format and dataset, leading to comparability and reduced administrative burden for regional companies), beginning with compatible reporting formats and shared definitions.

Using a common data format and dataset in ASEAN will drive comparability among ASEAN countries and will reduce complexity and administrative burden for companies trading in more than one AMS, be they producers or waste operations (if the latter would also be expected to report directly or indirectly into registries).

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5.2.2 Phase 2: Mid-term (system building and market strengthening)

C. Strengthen Regional Standards and Marketability of Recyclables (start)

The circular plastics economy in ASEAN is hindered by fragmented product standards, inconsistent recycled-content requirements and limited recognition of certification schemes. ASEAN can help address these challenges through coordinated, voluntary mechanisms.

In the mid-term, ASEAN could focus on establishing and operationalizing standards that improve the quality, consistency and tradability of recyclables within domestic and emerging regional markets. The emphasis could be Put-On-Market creation and functionality, supporting demand for recycled materials and enabling EPR systems to meet targets through viable downstream outlets. However, it is unlikely for this step to be finished in Phase 2 – it shall be continued in Phase 3.

See the “Regional Guidebook on Standards for Responsible Plastic Waste Trade, Sorted Plastics and Recycled Plastics” and the “Best Practice Manual for Development of Minimum Standards and Technical Requirements for Plastic Packaging and Labeling".

Regional Standards for Recycled Content and Reusable Packaging

ASEAN can facilitate the development of regionally endorsed standards for recycled plastics, quality specifications and recycled-content thresholds. These standards would create economies of scale and encourage investment in high-quality recycling infrastructure if ASEAN countries legally enforce them at the national level. Alternatively, mutual recognition of national standards could be considered.

The standards can also help level the playing field for primary plastics by signaling minimum recycled-content expectations for key applications such as packaging. Mandatory minimum recycled content requirements help stabilize demand for recyclates, reducing their exposure to volatility in virgin material commodity prices. ASEAN may further encourage investments in testing and traceability infrastructure to support these standards and underpin market confidence. Regional quality specifications may also define acceptable levels of contamination for recyclable feedstock, supporting the differentiation of qualities and thus more transparent regional trade.

Refinement of Trade Classifications

Through the ASEAN Harmonized Tariff Nomenclature (AHTN) review cycle, ASEAN countries can jointly refine the subheadings of the Harmonized System to better distinguish between:

- High-quality recyclable materials
- Processed recyclates
- Low-value or contaminated waste

Such refinements should remain consistent with the Harmonized System administered by the World Customs Organization and the WTO Trade Facilitation Agreement. This differentiation would support legitimate circular trade, help avoid misclassification and better reflect the needs of regional recycling industries while maintaining predictability for traders.

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5.2.2 Phase 2: Mid-term (system building and market strengthening)

C. Strengthen Regional Standards and Marketability of Recyclables (start) 2/2

Promote Circular Product Design Across ASEAN

ASEAN can support alignment on eco-design principles to prevent plastic leakage and promote resource efficiency, while helping to extend product lifespans and prevent waste generation.

Key areas include:

- Design for recyclability reuse and ease of processing, supported by ASEAN-wide eco-design criteria and standards for plastic products, including requirements for clear separation of labels and components, proper identification of plastic types, the avoidance of non-recyclable multilayer formats, and minimization of hazardous additives
- Use of minimum recycled-content levels and complementary policy tools (such as bans, restrictions or fiscal incentives, including, where appropriate, preferential fiscal treatment) that help level the playing field between primary and secondary plastics

Such guidelines can serve as voluntary references for AMS and industry associations. By supporting circular design, eco-design and reuse systems, ASEAN can contribute to global efforts to curb the growth of primary plastic production and demand, while strengthening regional circular value chains.

D. Strengthen Institutional Capacity and Enforcement (continuation)

Over the mid-term, AMS could shift the focus to using the institutions built in Phase 1 to effectively enforce EPR.

Enhancing Enforcement Capabilities

To help AMS strengthen inspection, monitoring and sanctioning systems, regulatory agencies and local governments can be equipped with the necessary resources to train personnel with the legal authority to carry out inspections and issue fines. These are tools and knowledge that can be made available through the proposed platform and its network.

This may include:

- Training enforcement officers
- Developing minimum operating standards for waste operators
- Improving traceability and reporting tools

Training-of-trainers programs and standard-setting efforts can be coordinated regionally, while enforcement and inspections remain fully under national authority.

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5.2.2 Phase 2: Mid-term (system building and market strengthening)

E. Support Gradual EPR Implementation in Diverse Infrastructure Contexts (start)

ASEAN and AMS can adopt a phased approach to EPR implementation that reflects existing infrastructure conditions. In the early stages, AMS can begin by strengthening foundational systems, such as expanding collection coverage and reducing leakage, while progressively expanding waste collection and treatment capacity to ensure environmentally sound waste management over time. The immediate task is to formalize waste operations and secure consistent data, ensuring that basic practices, traceability and reporting are reliable. As producer fees begin to support waste management, countries can then focus on improving collection and sorting, including the gradual onboarding of informal actors. Only once these foundations are in place should more advanced options be considered, such as higher-grade recycling or, where justified, energy recovery. The priorities can be ranked as follows:

- Reducing leakage, open burning and dumping
- Improving collection and sorting
- Supporting co-processing or energy recovery
- Advanced recycling and domestic circular design of products

As the systems strengthen, AMS can gradually expand to material or energy recovery options (co-processing, energy recovery, recycling) in line with national capabilities.

Mobilizing Private Investment

ASEAN can support AMS in creating predictable and transparent EPR frameworks that reduce investment risks. Clear fee mechanisms, oversight arrangements and reporting requirements can help AMS attract private investment for collection, sorting and treatment facilities, including facilities focused on producing high-quality secondary plastics.

Fee Transparency and Financial Governance

AMS may consider establishing clear principles and good practices for fee setting, cost allocation and fund management, including regular disclosure of how EPR fees are calculated and utilized. This may include distinguishing between operational costs (e.g. collection, sorting, recycling) and administrative expenses, or iterative system development investments. Where applicable, key results from yearly audits can be disclosed and the best practices shared on the common platform.

Supporting the Informal Sector

ASEAN and AMS can promote models that integrate the informal sector in EPR implementation. AMS can introduce minimum operating standards, improve traceability and support partnerships between informal workers, PROs and licensed aggregators. A regional platform could facilitate knowledge-sharing for effective integration practices and compare the achievement of KPIs.

Implementation can include training programs delivered by PROs that cover cooperative pathways between informal and formal waste collectors and recyclers, how data can be captured and how to ensure transaction traceability, inter alia. Additional programs can be launched by local governments in cooperation with PROs (with ASEAN providing regional curricula or Toolkits) for associations of informal workers. Contents may include finance, accounting, digital tools or literacy programs if needed.

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5.2.3 Phase 3: Long-term (regional integration and circular trade)

Over the long term, ASEAN EPR systems are likely to evolve from nationally coordinated frameworks toward regional integration, enabling circular trade in recyclables, recycled content and circular products.

Therefore, Phase 3 could focus on cross-border cooperation (F), aligned regional standards and market mechanisms (C) and scaled investment and inclusion models (E) to support mature, competitive circular value chains across ASEAN.

F. Enhance Cross-Border Cooperation to Support Circular Trade

Plastic value chains in ASEAN are deeply interconnected and cross-border cooperation is essential to achieving economies of scale in recycling.

Facilitate Safe and Transparent Regional Movement of Recyclables

While adhering to the Basel Convention, ASEAN can support AMS in:

- Improving documentation and verification procedures
- Sharing inspection and enforcement practices
- Clarifying classifications for recyclable materials in AHTN
- Regional cooperation on waste trafficking and reinforced governance of waste trade

These steps will help differentiate legitimate secondary materials from unwanted waste shipments.

Support Regional Recycling Hubs

Certain ASEAN countries may have competitive advantages in terms of infrastructure, such as established recycling clusters, lower operating costs or specialized processing technologies. ASEAN can facilitate dialogue on how AMS might leverage available and evolving regional capacity to process specific material fractions more efficiently, while still respecting national EPR obligations and environmental safeguards. Such an approach can be particularly valuable for ASEAN countries that currently lack infrastructure for certain materials, and where developing new facilities may not be feasible over the short term or not at all economically viable due to limited scale.

ASEAN's role could be to coordinate information-sharing and capacity mapping, while also facilitating cross-border flows of problematic waste fractions.

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5.2.3 Phase 3: Long-term (regional integration and circular trade)

C. Strengthen Regional Standards and Marketability of Recyclables (continuation)

In Phase 3, the majority of the activities proposed as step C within **Phase 2** are likely to continue. Over the long-term, the focus is likely to shift from standard-setting to regional alignment and mutual recognition of existing standards in the ASEAN. Aside from the continuation of activities already started in Phase 2, the following sub-step could be considered in Phase 3:

Mutual Recognition of Eco-labels and Claims

AMS may pursue mutual recognition arrangements (MRAs) for eco-labels, recycled-content certifications and sustainability claims. This will strengthen consumer trust, streamline market access and prevent duplicative testing or certification.

Mutual recognition can be complemented by regionally coordinated systems to verify recycled-content claims and enhance supply-chain transparency.

E. Support Gradual EPR Implementation in Diverse Infrastructure Contexts (continuation)

In Phase 3, as systems mature and consolidate regionally, further mobilization of private investment and integration of the informal sector are recommended. While the mid-term **Phase 2** may rely on pilots, over the long term the focus could shift to scaling and consolidating successful models across and between ASEAN countries.

In Phase 3, investment mechanisms are likely to be already mature and could thus support regional recycling hubs, cross-border value chains, and long-term financing of circular infrastructure. At the same time, integration of the informal sector could evolve from project-based inclusion toward systemic, durable participation, aligned with regional market standards and trade frameworks.

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6.1 EPR Status Quo in the ASEAN Region[13]

The table below offers a comparison of basic EPR components based on existing regulations or regulation drafts where available. The categories in the table column relate to the guiding principles for EPR implementation in the ASEAN region that are described in section 3.4

It reflects the findings from desktop research validated during 1-on-1 local consultations conducted between March and July 2025. (At the time the data for the assignment were collected, ASEAN consisted of ten AMS.)

EPR design and implementation status in the ASEAN region.

Existence of EPR Regulations	Clear Purpose and Structure	Focus on Monitoring, Reporting and Verification	Compliance & Enforcement	Inclusion & Cooperation
See Table	See Table	See Table	See Table	See Table

Several ASEAN countries have already adopted circular economy strategies and roadmaps that highlight the need to recover and retain material value through EPR systems. These frameworks give EPR strong policy backing but still need clear, enforceable rules to make them work in practice.

Detailed status assessment for each AMS can be found in the following subchapters.

[13]At the time the data for the assignment were collected, ASEAN consisted of ten Member States

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National EPR regulatory frameworks on packaging

Brunei See chapter 6.1
NO - No regulation addresses EPR implementation

Cambodia See chapter 6.2
NO - No regulation addresses EPR implementation

Indonesia See chapter 6.3
Regulations published in 2019 and currently being revised[14]
EPR not enforced

Laos See chapter 6.4
NO - No regulation addresses EPR implementation

Malaysia See chapter 6.5
NO - Circular Economy Act draft in development, but not published nor available

Myanmar See chapter 6.6
NO - No regulation addresses EPR implementation

Philippines See chapter 6.8
Regulations published in 2022-2024.
Mandatory EPR since January 2023.

Singapore See chapter 6.7
Regulations published in 2020-2024.
Mandatory packaging reporting since 2021 Mandatory DRS starting from April 2026 (with transition period until 30 September 2026)

Thailand See chapter 6.9
NO - Final draft of EPR Act published after public consultations in 2025

Viet Nam See chapter 6.10
Regulations published in 2020-2023.
Mandatory EPR since January 2024

[14]Status quo bases based on the publicly available regulation P.75 of 2019

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Packaging in scope

Indonesia	Product/packaging/container made from: plastic, aluminum, paper, glass
Philippines	Plastic packaging only: • Including flexibles whether single-layer or multi-layered with plastics or other materials • Rigid plastic packaging products, whether layered with any other materials
Viet Nam	• Primary and secondary packaging. • Various material types (including plastics) Six packaged product groups defined (incl. food, cosmetics, medicines, detergents, cement, fertilizers).
Thailand	Various types and kinds of packaging materials are expected to be included under secondary regulations but details are yet to be determined.
Singapore	• All kinds of packaging in scope for reporting • Metal and plastic beverage containers subject to DRS

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Producers in scope

2/5

Indonesia

- Manufacturer (F&B, consumer goods, personal care), retail and F&B service sectors
- Obligation threshold not defined

Philippines

- Brand Owner
- A product manufacturer or importer that provides commodities for general consumer use, or distributes products as a branded item for another company

Obligation applies to enterprises with asset value above PHP 100 million (USD 1.7 M), including loans but excluding land.
Micro, Small and Medium Enterprises (MSMEs) generally not included

Viet Nam

Organizations and individuals producing and importing the products and packages specified in regulations, except for:

- Manufacturers/importers producing goods for export, temporary import, re-export, or research, education and testing purposes
- Manufacturers/importers with annual revenue below 30 billion VND ***(USD 1.14 M)*** from packaging-related products
- Packaging manufacturers that recover and reuse their own packaging at a rate equal to or higher than the mandatory recycling rate

Singapore

The obligated producers under Mandatory Packaging Reporting (MPR) are those who:

- Import regulated goods with specified packaging
- Use specified packaging for the regulated goods (including the retailer)
- Have an annual turnover > SGD 10M (USD 7.78 M)

In addition, beverage manufacturers and importers (excluding individuals outside business activity) are subject to DRS (BCRS).

Thailand

Producer definition includes:

- Manufacturers of products using packaging under their own or a leased trademark
- An importer of products using packaging for sale or distribution
- A producer or importer of packaging for sale or distribution
- Entities commissioning the production of packaging with the intention to sell or distribute
- A digital platform service operator

Obligation threshold not yet defined in the draft act.

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Packaging design requirements

3/5



Indonesia

Generic requirement to reduce waste from products and packaging difficult to degrade naturally, non-recyclable, and/or non-reusable.

Producers are encouraged to:

- Use packaging that is easily biodegradable & generates minimal waste
- Avoid packaging that is hard to degrade
- Use recyclable or recycled content, and
- Use reusable materials in production



Philippines

High-level requirements exist. EPR submitted by obligated enterprises or PROs should, among others, include the following information:

- Labelling of packaging materials to facilitate recovery, reuse, recycling or proper disposal of packaging materials
- Other EPR programs, such as the redesign of plastic packaging to improve reuse or recyclability



Viet Nam

Criteria for the Viet Nam Eco-label, specifically targeting environmentally friendly plastic packaging, established.



Singapore

- No mandatory standards
- Government agencies have partnered the private sector to develop voluntary sustainable packaging technical references and guidelines



Thailand

The draft emphasizes the promotion of design for reduction, reuse and recycling, the use of recycled content, the control of chemicals of concern and supporting refill systems.

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Modulated EPR fees 4/5

Indonesia
Not applicable

Philippines
Not applicable

Singapore
Not applicable

Thailand
Producers are expected to pay a special fee for cleanup in case of non-recyclable materials.

Viet Nam

Varying levels of fees (financial contributions) payable to Viet Nam Environment Protection Fund (VEPF) by producers opting for this compliance mode, could be considered as eco-modulation.

The "Reasonable and valid recycling cost per unit volume of product and packaging" (Fs) factor aims to differentiate between producer financial contributions to VEPF depending on product sorting, collection, transport and recycling cost.

Deposit refund system 5/5

Country	Deposit refund system	
Indonesia	No	-
Philippines	No	-
Viet Nam	No	-
Thailand	No	-
Singapore	Yes	Metal and plastic beverage containers with a capacity of 150 ml to 3L

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Target defined

Indonesia

- Waste reduction target set: **30% by 2029** (along with specific packaging design requirements, such as minimum packaging volumes and the phase-out of problematic materials and single-use plastics by 1 January 2030)
- Recycling targets set (without target deadline):
  - using 100% recyclable materials
  - achieving 50% recycled content
- Promoting reusable packaging solutions

Philippines

Mandatory "waste diversion targets" for obligated enterprises: 20% in 2023 and gradually rising to 80% by 2028. Diversion includes not only recycling but also co-processing, energy recovery and sanitary landfilling.

Viet Nam

- Mandatory recycling specifications established two requirements to be met by the producer:
- Comply with one of the permitted recycling options
- Meet the minimum raw material recovery rate (40%)

The mandatory recycling rate in the first 3 years established differently for each type of material:

For plastic packaging: 10-22%

Thailand

The national targets have not been specified yet. The five-year plan is expected to be prepared and published and should contain targets for upstream packaging management along the value chain for design, production, distribution, consumption, segregation, collection, recycling and disposal.

Singapore

Under Beverage Container Return Scheme targets for return rate: 60% (year 1), 70% (year 2), 80% (year 3).

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Compliance options (tax, environmental fee, collective system, individual

1/3

Indonesia	• Joining a collective PRO system is not a legally recognized option (although voluntary PROs exist) • Individual reporting allowed only
Philippines	Three compliance options for obligated enterprises allowed: • Establishing an individual EPR program • Complying through a PRO • Forming a collective
Viet Nam	Four compliance options allowed: • Organizing recycling directly • Hiring a recycling unit • Complying via a third party (PRO) • Making financial contributions to a fund (VEPF) Combination of all the above is also possible.
Thailand	Three main compliance options possible: • Participating in a collective system through a PRO, • Establishing an individual Producer Responsibility (IPR) system, • In case the packaging material is considered difficult to collect for recycling as notified by the Minister, the producer will pay special fee for cleanup to PCD.
Singapore	Beverage Container Return Scheme (BCRS): mandatory participation for beverage producers via a single operator.

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Obligation for producer to register and report

2/3



Indonesia
Yes

Producers are required to report their plans and performance through the National Waste Management Information System (SIPSN) platform operated by the Ministry of Environment.



Viet Nam
Yes

Producers must register their annual recycling plan and report recycling results of the previous year, through an online registration system.



Philippines
Yes

OEs must register through the EPR registry including submission of an EPR program and annual EPR Compliance Audit Reports (ECARs) to the DENR.



Thailand
Yes

- Responsible producers will need to register and submit a packaging management plan to PCD.
- Details of registration system are being developed.



Singapore

- Current MPR scheme is not considered an EPR registry by the regulator.
- Obligated producers must submit annual reports of their packaging data and 3R plans.

Requirement to report POM

Yes	Yes	Yes	Yes	Yes

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Sanctions or fines envisaged for non-compliance

3/3

Indonesia

No

- No perceived consequence for non-compliance
- Sanctions or fines not defined

Viet Nam

Yes

Fines for EPR violations, including responsibility for recycling and treatment for products as well as packaging by producers and importers, can range from 50 million to 1 billion VND (USD 1.9 k – 38k)

Philippines

Yes

- Fines for failing to register or meet EPR targets:
  - fines range from ₱5 million to ₱20 million (USD 85k – 170k)
- Business permit suspension In case of not meeting EPR
- targets, the fines may also equal twice the cost of recovering or diverting the shortfall in plastic footprint

Thailand

Yes

- Up to 1 million baht (USD 32k), in case of failing to collect used packaging in accordance with the targets specified in the packaging management responsibility plan
- Up to 100 thousand baht (USD 3.2k) in case of submitting false information
- Up to 500 thousand baht (USD 16k) in case of distributing packaging prohibited from sale

Singapore

Yes

Mandatory Packaging Reporting:

- First conviction up to S$5,000 (USD 3.9k)
- Second/subsequent up to S$10,000 (USD 7.8k) and/or up to 3 months' imprisonment
- Continuing offences attract further daily fines up to S$1,000 (USD 0.78k) per day

BCRS:

- Producers or BCRS licensee may face fines up to S$10,000 (USD 7.8k) or imprisonment for various breaches specified in the regulation

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Informal sector

Indonesia

Regulation recognizes informal sector actors (waste banks) as potential partners for producers in building collection infrastructure. No systemic model for integrating the informal sector was laid out

Philippines

The informal waste sector (IWS) is defined in the EPR regulation

IWS is explicitly recognized as a key stakeholder in plastic waste recovery – obligated enterprises and PROs are encouraged to form partnerships with the informal waste sectors

Thailand

The draft indicates relevant government agencies shall be responsible for welfare support, quality of life improvements, capacity development and registration of collectors, although no agency is specified

Viet Nam

Not recognized in regulations

Singapore

Not recognized in regulations

Several ASEAN countries have already adopted circular economy strategies and roadmaps that highlight the need to recover and retain material value through EPR systems. These frameworks give EPR strong policy backing but still need clear, enforceable rules to make them work in practice.

Detailed status assessment for each AMS can be found in the following subchapters.

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6.2 Brunei Darussalam

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Legislative framework

Brunei Darussalam is in the initial stage of EPR implementation. The future EPR regulation framework is currently shaped by two documents, neither of which addresses EPR directly:

- **(2022) Environmental Protection and Management Act**
  The act empowers the minister responsible for environmental protection and management matters to impose requirements aimed at controlling land pollution, including industrial waste, domestic waste and littering
- **(2020) Brunei Darussalam Economic Blueprint (promoting the green, blue and circular economy)**
  The Blueprint promotes green, blue and circular economy to address existing and emerging country development challenges

Only the Environmental Protection and Management Act is a legislative act, while the Blueprint is a strategic framework not carrying legal force.

An EPR concept paper is being prepared, with work focusing on potential opportunities and stakeholder identification. No decision has been made public so far on national targets, companies obligated, material scope, or many other more detailed EPR aspects. However, plastic waste has been targeted, particularly plastic bottles. Therefore, DRS has also been identified as a potential solution. No indicative timeline for implementation is available.

Goals and challenges

70% of waste in Brunei ends up in landfills. The country's largest sanitary landfill, Sungai Paku, receives an average of 400-500 tons of waste daily and is expected to reach its maximum capacity soon. With a small population of around 460,000 people, residing mainly in dense urban areas, the estimated waste generation per capita is one of the highest in the ASEAN region, amounting to around 1.14-1.4 kg per day[15]. The recycling rates remain low: around 11.3%[16] of Brunei's waste is recycled and the recycling industry is highly export-dependent.

Therefore, the main goals for an EPR system considered so far are related to:

- Improving overall waste management
- Avoiding landfilling
- Increasing the recycling rate
- Reducing costs of collection for the government

Target

No targets have been published.

[15]Shams, S., Sahu, J.N. & Mubarak, N.M. A route for energy recovery from municipal solid waste and developing a framework for waste management in Brunei Darussalam. Sci Rep 14, 19767 (2024). https://doi.org/10.1038/s41598-024-70845-1 , [16]Dk Amirah Najibah Binti Pg Aliuddin, Md Sumon Reza, Abdalla M. Abdalla, et al. , Future Perspective of House Hold Waste Management in Brunei: A Comparison with Successful Swedish System, AIP Conference Proceedings, 2023

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6.2 Brunei Darussalam

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Governance

The primary authority responsible for overseeing compliance with environmental laws, including waste management, is part of the Department of Environment, Parks and Recreation (DEPR).

There have been no consideration yet of an entity dedicated solely to EPR implementation. Furthermore, no voluntary PROs operate in Brunei.

Registry and reporting

Some useful but fragmented information regarding the volumes of products put on the market or waste management can be obtained from different ministries and departments.

At this stage, no registry requirements exist, and no are EPR data is gathered in a structured way.

Public awareness

Public awareness and community involvement are crucial aspects of waste management and pollution control laws implementation in Brunei Darussalam. The government, along with various NGOs, actively encourages citizens and businesses to take part in waste reduction initiatives by promoting recycling programs and public awareness campaigns.

Informal sector

No reliable source of information could be found to measure the scale or functioning of the informal sector in Brunei Darussalam. Certainly, recycling companies do, to some extent, rely on materials supplied from the informal sector, and the scale is not reckoned to be significantly different from that of other countries in the ASEAN region.

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Legislative framework

Cambodia has not yet enacted mandatory EPR regulation for packaging. The country's legal foundation for plastic waste is:

- The **Code on Environment and Natural Resources** (Royal Kram No. NS/RKM/0623/007, June 2023), which establishes principles such as "polluter pays" and assigns the **Ministry of Environment (MoE)** broad powers over solid and plastic waste management.
- **Sub-Decree No. 168 on the Management of Plastic Bags(October 2017):** regulates plastic bag production, import and distribution, introducing the possibility of charging fees for retail plastic bags.

The Circular Strategy on Environment 2023-2028 focuses on solid waste and plastics and briefly mentions the Polluter Pays Principle. Additionally, the Royal Government of Cambodia initiated EPR policy development in 2021, with support from the UNDP and released a "Circular Economy Action Plan" that defines EPR as a key policy mechanism.

According to **RKCMPD–ERIA**, EPR regulations will lead to take-back programs operated by or for producers and new production standards promoting recyclability. No indicative timeline for implementation is available. In January 2026, the National Plastic Action Partnership (NPAP) Cambodia published the **Journey Towards Circular Plastic Economy: Plastic Action Roadmap in Cambodia.** The roadmap proposes the establishment of a structured, mandatory EPR system with "medium term" as the potential implementation period.

Challenges

Cambodia faces structural and institutional barriers to EPR readiness. The **MoE** lacks access to customs and trade data needed to track imports and calculate EPR fees and available waste data remains limited to landfill quantities. Coordination among ministries is still developing and enforcement capacity is limited. Producers and recyclers have limited engagement in policymaking and often equate EPR with *"recycling obligations"* rather than full lifecycle responsibility. The recycling industry is fragmented, dominated by small informal operators and lacks national standards or financial support. Low-value plastics have no economically viable recycling option, relying instead on co-processing in cement kilns. Informal workers operate independently without protection or formal channels of cooperation.

Target

No quantitative or legally mandatory national EPR targets exist. Cambodia's qualitative objectives under the **Circular Economy Action Plan (2021)** and **Circular Strategy (2023)** include reducing waste generation at the source, increasing reuse and recycling and encouraging the production and use of alternatives to single-use plastics.

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Governance

The **Ministry of Environment (MoE)** is the lead authority responsible for drafting sub-decrees, establishing the EPR framework and coordinating enforcement. **The National Council for Sustainable Development (NCSD),** chaired by the MoE, serves as the main coordination platform for circular economy and EPR policy.

The **Ministry of Economy and Finance (MEF)** designs fiscal tools such as eco-taxes and subsidies; the **Ministry of Industry, Science, Technology and Innovation (MISTI)** acts as lead on eco-design and production standards; and the **Ministry of Commerce (MoC)** develops labelling and green market-access frameworks. Together, these institutions form the **National Circular Economy Coordination Mechanism.**

Registry and reporting

Cambodia has not yet established an EPR registry or reporting framework. The 2021 Circular Economy Action Plan foresees a national monitoring and information system to track material flows, recycling rates and producer performance, to be managed by the MoE once EPR is enacted.

Public Awareness

Public awareness on waste reduction and recycling is growing through national and donor-supported campaigns. The MoE, in cooperation with UNDP and SWITCH-Asia, promotes education on sustainable consumption, the use of single-use plastic alternatives and eco-labelling programs. However understanding of EPR among producers and the general public remains limited and nationwide information campaigns will be required once EPR legislation is introduced.

Informal sector

Cambodia's recycling ecosystem depends heavily on informal waste pickers and aggregators. The 2021 Action Plan recognizes their contribution and commits to improving working conditions, formalization and gender-inclusive participation under the circular economy framework. However, informal workers remain unorganized and unprotected, with no institutional support or guaranteed access to recyclable materials.

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6.4 Indonesia

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6.4.1 Status of EPR Regulations and Other Policies

In Indonesia, the inclusion of the Polluter Pays Principle in national laws was the first step towards the introduction of EPR. It was introduced under **Law No. 18/2008** on Waste Management and further elaborated in Government Regulation No. 81/2012.

The Minister of Environment and Forestry (MoEF) **Regulation No. P.75/2019** builds upon this foundation, providing specific obligations related to plastic waste from the Food & Beverage service industry, Retail and Manufacturing sectors.

The regulation P.75 focuses on:

- Technical implementation of packaging waste reduction
- Establishing reduction targets
- Mandating producers to develop waste reduction roadmaps, which form the basis of Indonesia's EPR-like approach

Currently, a Presidential Regulation (Perpres) on the National Waste Management Strategy (Jakstranas) and a ministerial regulation are being drafted to strengthen the implementation of P.75. This new regulation is intended to: enhance enforcement and legal clarity, define roles and responsibilities and align policy instruments with Indonesia's circular economy goals.

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6.4.2 Overall Goal and Key Objectives of the EPR Framework

The key objectives of the EPR framework are as follows:

- Define "producers" and establish the list of obligated industries
- Set reduction and phase-out targets for certain single-use plastic (SUP) products and packaging
- Establish R1, R2 and R3 targets by 2030:
  R1: Reduction (inc. phase out), R2: Recycling, R3: Reuse (inc. Recycled target)
- Require packaging waste reduction plans to be submitted as part of environmental permits
- Define planning, implementation, monitoring, evaluation and reporting mechanisms

6.4.3 Products in Scope

Products/packaging/containers made from plastic, aluminum, paper and glass are subject to EPR under P.75.

6.4.4 Obligated Companies

The following definition of a producer is mentioned in the regulation:

"A producer is a business actor that manufactures goods using packaging, distributes goods using packaging and originating from imports, or sells goods using containers".

P.75 specifically mandates producers in manufacturing (F&B, consumer goods, personal care industries), retail and F&B service sectors. There are no explicit exemptions or thresholds, though SMEs are not actively targeted.

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6.4.5 National Targets for Packaging

The targets are subdivided into the three categories for reduction, recycling and reuse.
The main target is a 30% waste reduction, which can be achieved through R1, R2 and R3.

Target Type	Target	Value	Deadline
Overall	**Waste reduction**	30%	2029
R1 (reduction)	Minimum volume for food packaging (PE)	200 gr	
	Minimum volume for beverage (PE)	1 liter	
	Minimum volume for consumer good (PE)	500 ml	
	Minimum volume for body wash and shampoo (PE)	500 ml	
	Minimum volume for beverages (PET)	1 liter	
	Phase out PVC product/packaging (e.g. floor or dish cleaning product packaging)	-	1 January 2030
	Phase out flexible plastic	<50 ml or 50 gr	1 January 2030
	Phase out plastic straw	-	1 January 2030
	Phase out PS product/packaging	-	1 January 2030
	Minimum volume for liquid product (aluminum)	300 ml	1 January 2030
	Minimum weight for solid product (aluminum)	200 ml	
	Minimum volume for beverage (glass)	220 ml	
	Phase out single use plastic bag and utensils	-	
R2 (recycle)	Recyclable materials use	100%	
	Recycled content	50%	
R3 (reuse)	Using packaging/product that can be reused	-	

So far, reuse is still being encouraged but no specific target has been set. Producers can implement R3 and estimate how much packaging they have successfully reduced through the adoption of reuse.

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6.4.6 Overview of the EPR Scheme (public oversight bodies and/or a coordination entity, PROs, information and financial flows)

The regulation P.75 focuses on:

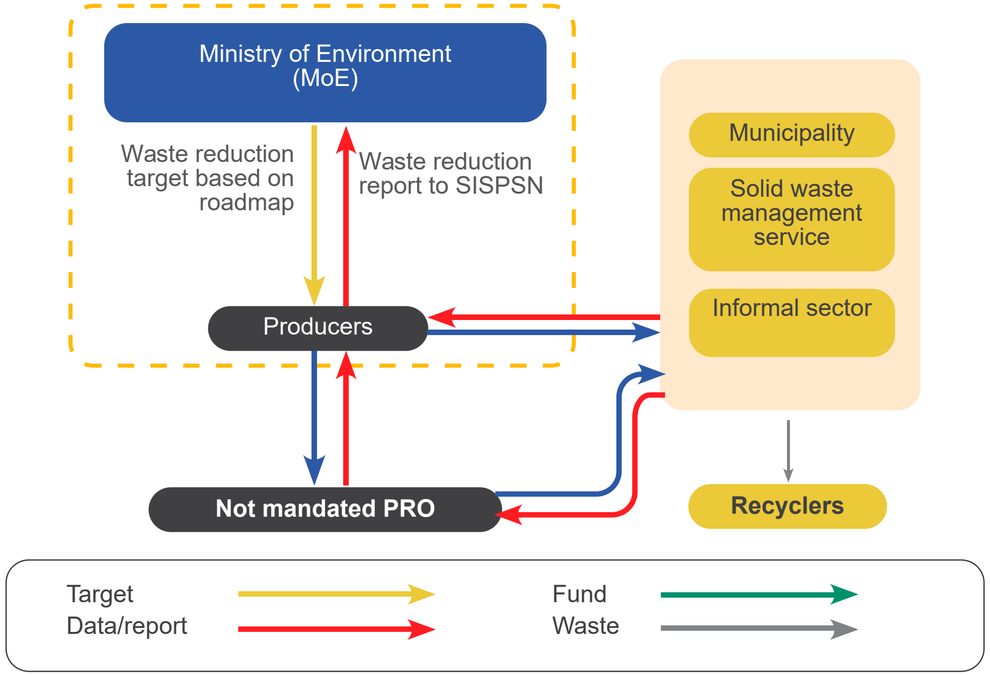
Enforcement: Ministry of Environment (KLH), Waste Reduction Directorate

PROs (Producer Responsibility Organizations): Organizations such as IPRO and ADUPI operate on a voluntary basis and are not yet formally defined, recognized or mandated by regulation

Municipalities/Solid waste management service: Are required to report their data to the producers. However, in practice, recyclers do not report their data to anyone, as these companies operate independently. They only provide data to producers if there is a specific agreement or cooperative initiative under a take-back system

Financial model: voluntary contributions, no eco-modulated fees

The material, information and financial exchanges under the EPR scheme are illustrated below:



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6.4.7 Existence and Role of National Governance Bodies

In Indonesia, there is no dedicated EPR governance body, although the Ministry of Environment (KLH) serves as the sole regulator, monitor and verifier. Regulation P.75 encourages local governments to support and evaluate producer efforts. However, there is still no standardized framework or clear protocol guiding how local governments should conduct these evaluations.

6.4.8 Roles and Responsibilities Taken Up by a PRO

The current regulatory framework does not yet provide legal recognition, mandates or defined roles for PROs in the EPR system. The PROs, in turn, do not have data on volumes of products put on the market (POM) and do not charge fees according to tonnages sold. The voluntary PROs are meant to facilitate collection and recycling through cooperation with waste actors and to educate and promote EPR practices.

6.4.9 EPR Registry

Producers are required to register and report their plans and performance through the **Sistem Informasi Pengelolaan Sampah Nasional (SIPSN)** platform operated by the Ministry of Environment: *https://sipsn.menlhk.go.id/produsen/login*. However, SIPSN currently has limited functionality.

Status (2025) – out of 556 obligated producers
(verification is managed by the Ministry of Environment - KLH):

- 95 producers registered
- 21 approved for implementation
- 52 submitted roadmaps (awaiting approval)
- 20 have started implementation

6.4.10 Inclusion of Informal Sector

While MoEF Regulation P.75/2019 does not lay out a systemic model for integrating informal actors, it does recognize certain entities, such as waste banks and recycling centers, as potential supply chain partners for producers in building collection infrastructure. In practice, the majority of early-stage EPR implementations and pilot projects depend heavily on the informal sector due to the current lack of a formal collection and sorting infrastructure. These include horizontal players such as recyclers, waste management service providers, junk shops, waste pickers and waste banks.

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Legislative framework

Lao PDR is in the preliminary phase of establishing an EPR framework for packaging. No formal EPR legislation has been enacted yet, but some of the groundworks has been laid and will need to be considered while developing regulations in the future. The National Plastic Action Plan (NPAP) is the primary strategic instrument aligning national priorities with EPR principles, ensuring policy coherence and avoiding overlap:

- Environmental Protection Law 2012
- Process Manufacturing Law 2013
- Natural Resources and Environment Strategy 2016-2025
- National Green Growth Strategy of the Lao PDR until 2030
- National Plastic Action Plan (NPAP) 2024-2030)

Targets

With no EPR framework, it is too early to discuss EPR targets for producers. However, the NPAP has made an attempt to set the following objectives:

- Target to create voluntary EPR schemes with at least 50 business participants by end of 2024
- Planned baseline study on packaging situation in Laos
- Assessment of manufacturer readiness for EPR mechanisms
- Development of clear indicators and obligations for manufacturers
- Creation of manufacturer responsibility policies

Governance

No formal national governance bodies for EPR in Laos have been adopted. However, there are national governance bodies for solid waste management, with the following roles:

- **Ministry of Environment and Agriculture (former Natural Resources and Environment/MONRE):** serves as the primary regulatory and strategic planning authority for solid waste management. The ministry is also responsible for formulating legislation and establishing guidelines governing waste management practice.
- **Ministry of Public Works and Transport (MPWT):** delivers technical expertise and supervisory oversight for solid waste management infrastructure development and operations.
- **Ministry of Industry and Commerce (MOIC):** collaborates with local sectors to conduct assessments and provide ongoing monitoring of recycling facilities, including those processing electronic waste.
- **Vientiane City Office for Management and Service (VCOMS):** oversees waste management operations within the capital city of Vientiane.
- **Additional relevant ministries and departments:** Several other governmental entities contribute to waste management efforts, notably the Ministry of Finance (MOF) and the Department of Environment (DOE).

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Registry and reporting

While data collected by various organizations (such as the World Bank) can currently be used, it is often inadequate and non-comparable, and also not focused on plastics. There is no central database available as of yet. Hence, the major priority for the ministry responsible for the environment is to gather data on plastics entering the market and proper data management. The database should cover plastic production, import and waste generation. Such a priority has also been set in the NPAP, together with standardized reporting requirements for producers and recyclers and the strengthening of monitoring and verification systems.

A basic registry does however exist for both formal and informal collectors. For informal pickers, a very simple system applies within the dumpsites regarding the amount of waste sold and the type of waste collected (with no information on plastic types)

Informal sector

Like in other developing countries, the share of the informal sector in Laos is significant, in particular in the plastics value chain. Therefore, the informal sector will need to be considered while developing EPR regulations in the future. Currently, informal sector workers need to register under the Vientiane City Office for Management and Service (VCOMS), a local authority responsible for the municipal solid waste management), but not everybody does so. Informal pickers also register under organizations that manage dump sites (they need to pay a fee to access the landfill). There are also informal waste pickers collecting waste from the mixed waste bins on the streets – these are not under any form of registration.

Expectation and challenges

Laos struggles with a scarcity of waste management infrastructure. The predominant method of treating waste is landfilling and all landfills are open dumps (prolonging their life is becoming an issue). While EPR implementation is set as one of the priorities in the NPAP, it is challenging to start these activities due to lack of appropriate funding and limited capacity and technical knowledge in the country. Awareness of EPR among producers and consumers also remains low.

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Legislative framework

The EPR legislative framework in Malaysia is shaped by several regulations, including the Solid Waste Management and Public Cleansing Act 2007 (Act 672) and the National Solid Waste Management Policy 2016. It should be noted that, because not all states adopt federal law, local acts may also apply.

The Circular Economy Policy Framework for the Manufacturing Sector, published in March 2024, suggests that manufacturers transition to mandatory EPR as a way to increase the availability of domestic recycling feedstocks. The Circular Economy Blueprint for Solid Waste (CEB), published in August 2024, provides additional EPR implementation guidelines, including adoption timelines. A comprehensive Circular Economy Act covering the EPR scheme is expected to be introduced with the 2035 implementation timeframe plan, most likely starting with voluntary EPR as the first phase. To become effective, it will need to be adopted by all federal states in Malaysia.

Considering all the above, Malaysia is still in the initial stage of EPR implementation, although advanced discussions on what form the EPR will take have been held between stakeholders within the National Circular Economy Council (NCEC). In May 2025, NCEC stated that it had approved in principle the EPR Policy Framework, although no details have been published so far.

Targets

No information is considered to be confirmed for the national targets, products in scope or producer definition.

Since the mentioned framework indicates the need to establish quantitative targets, different targets will be established for various materials. However, there is currently no official confirmed information on the agreed-upon recycling and recovery rates for each material type, or for the mandatory recycled content.

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Governance

The Circular Economy Blueprint for Solid Waste (CEB) identifies the Ministry of Housing and Local Government (KPKT) as the lead agency in EPR implementation. It is supported by a number of ministries, including the Ministry of Economy (MOE), Ministry of Natural Resources and Environmental Sustainability (NRES), Ministry of Investment, Trade and Industry (MITI) and the Ministry of Domestic Trade and Costs of Living (MTDCL). KPKT's primary focus is waste collection and recycling, whereas MITI's priority is products and manufacturing. NRES will concentrate on environmental pollution issues, such as determining the fines and penalties to be imposed.

The National Circular Economy Council (NCEC) was established in September 2023 under the authority of the KPKT with representatives from relevant ministries, including state authorities, industry players and other EPR stakeholders. NCEC is also regarded as an appropriate platform for coordinating activities among ministries on circular economy issues.

Since there is no common national EPR scheme in place, producers use their own definitions and targets under voluntary EPR schemes. It is primarily operated by the Malaysian Recycling Alliance (MAREA), a voluntary PRO formed in January 2021 by ten fast-moving consumer goods (FMCG) companies. Future EPR framework considerations, however, assume multiple private PROs with the obligation to register with a governmental body. It has not been determined whether PROs will be required to operate at the federal level or if operations on a local scale will be permitted. To ensure enforcement, track implementation progress and ensure compliance with EPR laws, a dedicated EPR regulatory body will be established.

Registry and reporting

Currently, Malaysia lacks regulations to enforce the registry and reporting of EPR. The obligatory EPR registry called MyEPR System is being considered for producers, with the possibility of fulfilling the obligation through assigned PROs. The development of the registry is planned for 2026, with a go-live in November 2027. The threshold for obligated producers is being considered, with two possible options: the volume of product put on the market (POM) or the company size. The categories of information to be reported have not yet been defined.

Informal sector

The recycling supply chain in Malaysia depends heavily on the informal waste sector, especially when it comes to gathering and sorting recyclables from waste streams. The ministries intend to integrate the informal sector and are researching appropriate mechanisms and solutions within the circular economy framework. However, discussions under the Circular Economy Blueprint for Solid Waste have so far targeted stakeholders other than the informal sector (e.g., brands, manufacturers, recyclers, trade associations, government agencies). While most informal workers were not initially familiar with the EPR concept or the regulations being discussed, once the idea was clearly explained, they expressed strong support, recognizing the potential benefits and new opportunities it could bring to their work.

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Legislative framework

There is no EPR law in Myanmar, but the National Plastic Management Action Plan (NPAP) and the National Waste Management Strategy and Master Plan (2018–2030) establish EPR as a policy framework for plastic waste management, paving the way for future regulations development. Myanmar's Notification No. 74/2023 states a general prohibition on waste import, but allows the import of "clean, homogenous plastic scraps" that can be used directly as raw materials, subject to licensing. However, because this is a notification rather than a full statute, its legal implementation is evolving. Should EPR be implemented in Myanmar, the imported plastic scrap may decrease the attractiveness of local recyclates.

Overall objectives

The Strategy for plastics aims to operationalize the 3Rs and PPP within a circular economy and make producers accountable for plastic packaging throughout its lifecycle (including EPR). Key objectives include reducing plastic waste generation at the source, eliminating open dumping and plastic leakage, establishing legal and institutional frameworks for EPR, establishing traceable data systems for producer registration and waste flows, banning thin PE plastic bags while promoting alternatives, raising public awareness, integrating informal collectors into formal value chains and achieving a zero-waste society by 2030 (the targets to achieve are 100% collection services for all citizens and 0% dumping and burning).

Products in scope

The strategy refers broadly to "packaging waste" and "plastic waste" but does not specify polymer types or specific plastic categories.

Obligated companies

The strategy refers to "producers, importers and distributors". This definition suggests that e-commerce actors fall within the same obligation, but this is not mentioned explicitly. The 2015 SME Development Law would dictate applicable thresholds for producer company sizes if the EPR frameworks would develop SME-specific obligations.

Targets

There are no mandatory targets in the law, however the strategy aims at achieving 100% waste collection, elimination of open dumping and 60% diversion of plastics and other recyclables from landfills by 2030.

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Governance

The strategy calls "licensed industrial waste handling businesses" those entities equivalent to an early PRO, or proto-PRO, at least until the EPR framework would be fully implemented. These PROs, under the supervision of the Ministry of Natural Resources and Environmental Conservation and reporting to it annually, would enable producers to fulfilll their plastic waste collection, recycling or proper disposal responsibilities supported by the manifest system for industrial generators. Generally speaking, the strategy states these proto-PROs could receive financial incentives, including low-interest loans and subsidies, to develop waste treatment and recycling infrastructure and encourages them to engage in public–private cooperation (e.g. with municipalities or industrial zones) to expand and improve waste treatment or recycling infrastructure.

The primary authority responsible for EPR policy implementation is the Ministry of Natural Resources and Environmental Conservation (MONREC), through its Environmental Conservation Department (ECD). The 2018 Strategy designates ECD as the lead regulatory body overseeing licensing, monitoring and enforcement of producer and waste-handler obligations, under the supervision of the National Environmental Conservation and Climate Change Central Committee (NECCCCC).

On a secondary level, the Customs Department would control the import and export of plastic scrap and recyclable materials; the Central Statistical Organization (CSO) would be responsible for national data collection and statistical reporting related to waste generation and recycling flows, supporting ECD in monitoring performance indicators.

Registry and reporting

The strategy explicitly proposes establishing a national digital database under the Environmental Conservation Department (ECD)to record producers, licensed waste handlers and recyclers. The EPR registry would be bound to a manifest system, ensuring traceability of waste flows from producers through to collection, transport and treatment facilities. Producers would be required to submit periodic data and reports on waste generation, collection, recycling and disposal to ECD directly (not via PROs).

Informal sector

There is currently no legal mandate in the national regulatory framework (environmental or waste laws) that requires formal inclusion of informal collectors, or rules for remuneration, occupational safety, health, or insurance for waste pickers.

The Strategy mentions the informal sector repeatedly, recognizing their important service and current lack of protection under the law. Small recyclers and local authorities are encouraged to support formalization processes through recognition, training, organization and health and safety improvement.

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6.8.1 Status of EPR Regulations and Policies

The Philippines implemented mandatory EPR for plastic packaging in 2023 with the Republic Act 11898 published in 2022 (known also as the EPR Act of 2022). The regulatory framework is shaped by the following laws:

- Republic Act No. 11898 (amending the Ecological Solid Waste Management Act of 2000)
- Implementing Rules and Regulations of Republic Act No.11898 (DENR Administrative Order 2023-02)
- Compliance Reporting and Audit Guidelines for Republic Act No. 11898 (DENR Administrative order 2024-04)

The Department of Natural Resources (DENR) is currently preparing supplemental guidelines to support implementation. Two draft guidelines are under review and one may be approved in 2025, depending on leadership transitions. The guidelines aim to clarify procedures and expand coverage to include upstream strategies.

6.8.2 Overall Goal and Key Objectives of the EPR Framework

The key objectives of the EPR framework are as follows:

- Set guidelines and targets for solid waste avoidance and volume reduction through source reduction and waste minimization measures
- Ensure the proper segregation, collection, transport, storage, treatment and disposal of solid waste
- Promote national research and development programs for improved solid waste management and resource conservation techniques
- Encourage greater private sector participation in solid waste management
- Retain primary enforcement and responsibility of solid waste management with local government units
- Encourage cooperation and self-regulation among waste generators through the application of market-based instruments.
- Integrate public participation in the development and implementation at the national and local level of comprehensive, ecological solid waste management programs.
- Reinforce the integration of ecological solid waste management and resource conservation and recovery topics into the academic curricula for formal and nonformal education
- Institutionalize the extended producer responsibility mechanism as a practical approach to efficient waste management

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6.8.3 Products in Scope

Currently, the Philippines EPR system targets only plastic packaging, where packaging means polymer material designed to protect a product from environmental factors, or carry goods for transportation, distribution and sale, including service necessities. Section 44-C of Republic Act No. 11898 lists the following materials as subject to recovery and diversion obligation:

- Sachets, labels, laminates and other flexible plastic packaging products, whether single or multi-layered with plastic or other materials
- Rigid plastic packaging products, including containers for food, beverages, home and personal care items, along with their lids, caps and related promotional items such as cutlery, plates, straws, sticks, tarpaulins, signage and labels
- Plastic bags, including single-use plastic bags used at points of sale
- Polystyrene

6.8.4 Obligated Companies

Obligated producers refer to product producers, i.e.,

- brand owners selling or supplying any commodity under a brand, label or identity using a product they produced, or a material supplied to them by another manufacturer or supplier
- product manufacturers or importers supplying their commodities for the use of the general consumer, or distributing the same as a material product of a brand owner

In case the commodities are manufactured, assembled or processed by a product manufacturer for another obligated enterprise which affixes its own brand name, the latter shall be deemed as the manufacturer.

The obligation applies to enterprises falling under defined asset thresholds (above PHP 100 million, including loans but excluding land). While micro, small and medium enterprises (MSMEs) below the asset thresholds are exempted, they are encouraged to practice EPR voluntarily:

Summary of Obligation Status of Enterprises under EPR Law by Asset Threshold

Obligated Category	Asset Threshold	Obligation Status
Large Enterprises	Asset > Php 100 Million	Obligated
MSMEs under same brand	Asset > Php 100 Million	Obligated
MSMEs under threshold	Asset ≤ Php 100 Million	Exempt (Voluntary Only)

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6.8.5 EPR Compliance Modalities

Producers may fulfill their obligations by either of the following options:

- Individual compliance
- Compliance via a Collective[17]
- Compliance via a Producer Responsibility Organization

[17]Refers to a group of obligated enterprises (OEs) that organized themselves, not as a PRO, to implement a common platform for the implementation of their EPR Program. For purposes of implementing the EPR Program, the Collective shall be represented by the lead or parent company ("lead company") and the governing terms of the organization shall be embodied in a contract or service agreement duly executed between and among the members of the Collective.

6.8.6 National Targets for Packaging

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Obligated enterprises must recover or offset their packaging footprint according to the following targets relating to the plastic product footprint they generated during the immediately preceding year:

Year	Target
December 31, 2023	20%
December 31, 2024	40%
December 31, 2025	50%
December 31, 2026	60%
December 31, 2027	70%
December 31, 2028 and every year thereafter	80%

The existing EPR framework allows for as many as 12 upstream and downstream activities counting towards target achievement[18]:

Waste reduction methods & waste recovery program

[18]DAO 2023-02, Section 12.1-12.2

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6.8.6 National Targets for Packaging

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1. Waste reduction methods

- Adoption of reusable packaging products, or packaging design to improve their reusability, recyclability or retrievability
- Inclusion of recycled content or recycled materials in packaging materials
- Adoption of appropriate product refilling systems for retailers
- Viable reduction rates plan
- Information and education campaign schemes
- Appropriate labelling of products and packaging materials to include information thereon to facilitate recovery, reuse, recycling and proper disposal of waste product and packaging

2. Waste recovery programs

- Recovery schemes through redemption, buy-back, offsetting, or any method or strategy that will efficiently result in high retrievability, recyclability and resource recovery
- Diversion of recovered waste into value chains and value adding useful products through recycling and other sustainable methods
- Transportation of recovered waste to the appropriate composting, recycling or other diversion or disposal site in the country
- Clean-up of waste leaked to coastal areas, public roads and other sites
- Establishment of commercial or industrial scale recycling, composting, thermal treatment and other waste diversion or disposal facilities for waste products, when investment therein is viable
- Partnership with LGUs, communities and informal waste sectors

Notably, as transportation to disposal sites is considered to be recovery, producers may meet their annual targets through sanitary landfilling.

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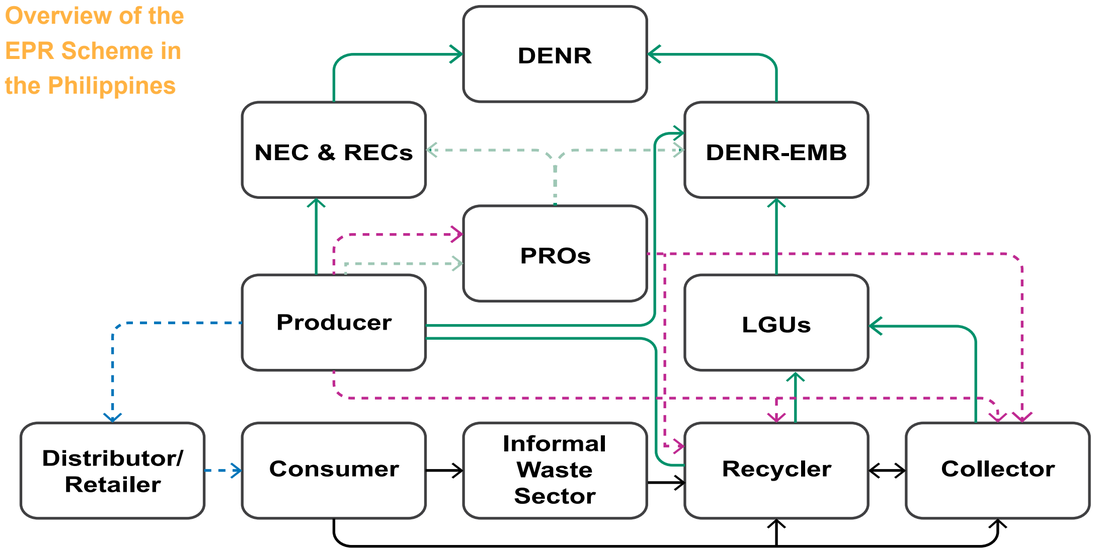
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6.8.7 Overview of the EPR System
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The overview of the EPR scheme in the Philippines is illustrated below

Overview of the EPR Scheme in the Philippines



6.8.8 Existence and Role of National Governance Bodies

The implementation of EPR in the Philippines is overseen by the Department of Natural Resources (DENR), with its Environmental Management Bureau (EMB) playing a central operational role. Other governance bodies include the National Ecology Center (NEC), responsible for policy development and management of the EPR Registry and Regional Ecology Centers (RECs) handling regional implementation through the EMB's regional offices. These bodies also facilitate capacity-building efforts and stakeholder coordination. The EPR governance also includes multi-stakeholder platforms, such as the National Plastic Action Partnership (NPAP) and technical working groups, such as the Flexible Plastics Recycling Technical Working Group, which involve both government and private sector actors. Currently, some personnel from EMB are also serving as interim staff for NEC, highlighting the need for expanded dedicated resources.

The National Solid Waste Management Commission also plays a role. It registers EPR programes submitted by obligated enterprises and PROs.

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6.8.9 Roles and Responsibilities Taken Up by a PRO

As compliance via PROs is only one of the three options, the roles and responsibilities of these bodies are limited. Section 44-H of the EPR Act envisages that DENR, in consultation with NSWMC and obligated enterprises or their PRO, shall establish a system or parameters necessary to make the PRO sustainable and compliant with the objectives of the Act. It lists, on a high level, the following duties and responsibilities of PROs:

- Implementation parameters of the EPR program
- Financing mechanisms
- Cooperation mechanisms with other stakeholders; the stakeholders; waste management entities; distributors; retailers, grocery and store owners; junkshop operators; and individuals or entities in the informal sector involved in waste management,
- Implementation strategies.

There are multiple PROs existing in the Philippines. In practice, due to a lack of precise guidelines, the roles they take up vary case by case. In general, PROs have little or no knowledge of put-on-market data for their member producers and hence do not have typical EPR fee structures, in which the amount of producer contribution depends on the annual tonnage introduced on the national market. Instead, PROs charge flat fees that are to services not directly linked to waste collection and treatment (in which they might not even be involved), such as registration in the EPR registry and annual auditing of producer compliance.

6.8.10 EPR Registry

As provided under Section 44-E of Republic Act No. 11898, all obligated enterprises or their PROs are required to register their EPR programs with NSWMC through DENR. The registration must include key information such as contact details, the specific types of plastic packaging (flexibles and rigids), product brands, implementation approach (individual, collective, or through a PRO), volume of plastic placed on the market and recovery targets. It must also detail other program components such as design for recyclability, labeling, implementation status and compliance updates.

Initial registration was required within six months of the law's effectivity and it is followed by annual reporting (submission of EPR Compliance Audit Reports). EMB, in coordination with NSWMC, is responsible for monitoring and evaluating compliance. Currently, the database is operated manually with the intention of transiting to a digital tool.

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6.8.11 Inclusion of Informal Sector

The Philippine EPR framework recognizes informal waste sector as a key stakeholder in the plastic value chain:

The EPR Act specifies partnerships with the informal sectors as one of the activities within product waste recovery programs[19]

The Implementing Rules and Regulations provide a definition of the informal waste sector ("Individuals, families, groups, associations or enterprises engaged in the recovery of waste materials for livelihood and income, either on a full-time or part-time basis. They work with/without any formal recognition by any government accreditation, licensing or regulating agency. They have no social and economic security and work under substandard and unhealthy work conditions and have limited access to basic services. They are classified as: itinerant waste collectors/buyers, jumpers at collection trucks, garbage crew ("paleros"), waste reclaimers and unlicensed junk shops"[20]), and encourages obligated enterprises, collectives and PROs to involve, where feasible, informal waste collectors, NGOs, or civil society organizations in their plastic packaging waste collection plans[21]

The IRR also describe the partnership with the informal waste recovery sector and obligated enterprises, collectives and PROs, stating that:

- This partnership shall ensure a formal coverage of the activities of informal collectors which may be an important resource to ensure the collection of EOL at source and shall promote the creation of formal business which may participate in the implementation of EPR schemes
- Partnership with informal collector will be implemented in such a way to ensure that as a minimum, the national rules related to occupational health, right of employees and environmental protection are complied with at any stage
- Obligated Enterprises, Collectives, or PROs establishing partnerships with the informal collector shall ensure that such standards and rules are complied with and may introduce higher standards or safeguard systems in case these are more protective than the national rules. Such standard or safeguard systems may for instance concern: Social inclusion; Gender equality, Grievance mechanisms, Child labor, Occupational Health, Fair wage policies."[22]

Similar groups continue to advocate for formal recognition, direct participation, fair compensation, protective equipment and clearer guidelines in EPR implementation, highlighting that genuine integration must move beyond policy acknowledgment to practical empowerment and equitable benefit-sharing.

[19]Section 44-A, EPR Act of 2022 | [20]Section 6. Definition of Terms, Implementing Rules and Regulations (DAO 2023-02)
[21]Art. 12.2.1.2, Implementing Rules and Regulations (DAO 2023-02) | [22]Art. 12.2.6.3, Implementing Rules and Regulations (DAO 2023-02)

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6.9.1 Status of EPR Regulations and Other Policies

The framework for packaging waste management in Singapore is defined by **The Resource Sustainability Act 2019 (RSA)** and related regulations:

- Resource Sustainability (Packaging Reporting) Regulations, 2020
- Resource Sustainability (Producer Responsibility Schemes) Regulations 2021 (regarding Electrical and Electronic Waste, enters into force on 1 July 2021)
- Resource Sustainability (Beverage Container Return Scheme) Regulations 2024 (takes effect from 1 Apr 2026)

They define packaging scope and the assigning of obligations to producers. In 2021, the Mandatory Packaging Reporting (MPR) scheme implemented under RSA requires producers to submit annual reports of their packaging data and 3R (reduce, reuse, or recycle packaging) plans to the National Environment Agency. It seeks to raise companies' awareness of the benefits of packaging reduction and to spur companies to reduce the amount of packaging used.

In 2023, The RSA was amended to introduce a deposit return scheme for beverage containers. The Beverage Container Return Scheme (BCRS) commenced on 1 Apr 2026.

6.9.2 Overall Goal and Key Objectives of the EPR Framework

Major objectives of the EPR regulations are:

- To make producers responsible for the collection and end-of-life management of the packaging materials for their products,
- To incentivize producers to develop and use sustainable forms of packaging and thereby reduce the amount of packaging waste.

The beverage container return scheme also aims to raise consumer awareness on the importance of recycling and encourage good recycling practices.

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6.9.3 Products in Scope

Mandatory Packaging Reporting obliges producers to report on the amount of packaging introduced into Singapore, defined as material or a combination of materials used for the containment, protection, handling, delivery or presentation of any goods. In general, all types of packaging are within the scope of the MPR except for the packaging that can be reused by the company or designed to be reused by the end user.

The non-exhaustive list of packaging types provided by the MPR portal that could be reported is shown in the table below:

Packaging material	Packaging form	Further detail
Composite	Beverage carton	-
	Packs/Sachets	
	Product packaging	
	Others	
Glass	Beverage bottles	Brown Clear Green Other colors
	Product packaging	
	Others	
Metal	Beverage can	Aluminum Steel Tin Others
	Disposables (foils, trays)	
	Food can	
	Product packaging	
	Others	
Paper	Carrier bag	Corrugated board Paper Paperboard Others
	Disposables *(bowls, boxes, cups, plates, trays)*	
	Product packaging	
	Transport and protective packaging	
	Others	

Packaging material	Packaging form	Further detail
Plastic	Beverage bottle	• EPS • PP • HDPE • PS • LDPE • PVC • PET • Others
	Carrier bag	
	Disposables *(bowls, boxes, covers, cups, plates, trays)*	
	Product packaging (flexible)	
	Product packaging	
	Transport and protective packaging	
	Others	
Wood	Beverage can	-
	Disposables (foils, trays)	
	Food can	
	Product packaging	
	Others	
Others	Beverage bottles	Biodegradable/ compostable oxo- degradable/ oxo-biodegradable Others
	Product packaging	

Additionally, the Beverage Container Return Scheme (BCRS) covers both metal and plastic beverage containers with a capacity of 150 ml to 3L.

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6.9.4 Obligated Companies

The obligated producers under Mandatory Packaging Reporting (MPR) are those who import regulated goods with specified packaging, use specified packaging for the regulated goods (including the retailer) and have an annual turnover > SGD 10 M (approximately 7.7 M USD). BCRS is mandatory for all drink manufacturers and importers (excluding individuals outside business activity).

6.9.5 National Targets for Packaging

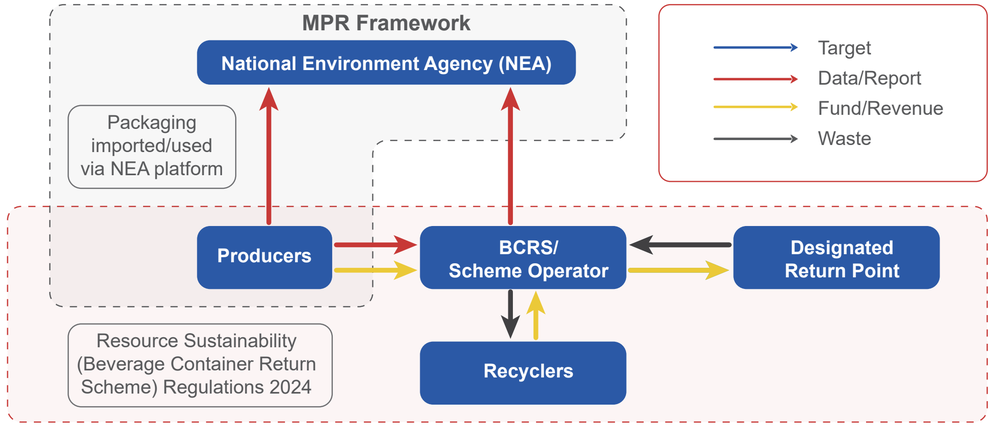
The following target on return rates has been established under BCRS:

Scheme	Target Type	Target & Timeline
BCRS	Return Rate	To adjust (60% year 1) To adjust (70% year 2) To adjust (80% year 3)

6.9.6 Overview of the EPR Scheme

(public oversight bodies and/or a coordination entity, PROs, information and financial flows)

- **Regulatory Agency:** National Environment Agency (NEA)
- **Registry/Reporting:** MPR registry is managed by NEA. Packaging data is submitted by producers annually
- **Producer Scheme Operator:** BCRS Ltd. (licensed not-for-profit company formed by beverage industry) to act as a DRS operator
- **Financial flows:** BCRS funded by sale of materials collected, unclaimed deposits, and producer fee payments; MPR has no fee structure



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6.9.7 Existence and Role of National Governance Bodies

NEA is the sole national regulator

NEA builds industry capabilities in packaging sustainability through industry partnerships such as the Packaging Partnership Programme (PPP).

6.9.8 Roles and Responsibilities Taken Up by a PRO

BCRS Ltd.:

- Operates beverage container return scheme
- Manages collection, logistics, refunds processing
- Licensed by NEA to act on behalf of beverage producers

6.9.9 EPR Registry

The current Mandatory Packaging Reporting (MPR) scheme is not considered an EPR registry. Reporting is required under MPR, but only for awareness and data collection, not for EPR enforcement.

Producer reporting:

An obligated producer must, on or before 31 March of each year (or an other later date that the agency may allow in any particular case), submit to the agency the packaging report relating to the specified packaging imported or produced in the year immediately preceding that year, and 3R plans

An electronic portal, the Waste & Resource Management System (WRMS), is used to submit required information

Each packaging report for a given year:

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6.9.9 EPR Registry

Each packaging report for a given year:

- Must explain the methodology used in recording the material, weight and form of specified packaging imported or used by the producer in the year
- Must state the weight and format of specified packaging imported or used according to the type of material or specified packaging, minus all specified packaging imported or used in relation to regulated goods that the obligated producer knows have been exported that year or are to be exported

The 3R (reduce, reuse, or recycle packaging) plans may cover:

- Packaging reduction
- Packaging collection for reuse or recycling
- Consumer or industry outreach related to packaging 3Rs
- Use of recycled content in packaging material
- Improved recyclability of packaging
- Each plan shall be implemented within 3 years from the initial date of submission.

6.9.10 Inclusion of Informal Sector

It is impossible to provide an exact scale for Singapore's informal waste sector due to its very nature, but it certainly remains an active and important part of the recycling ecosystem. In the case of plastic waste, however, the low margin of return for collecting and selling recyclable plastics to major plastic collectors and downstream recyclers significantly limits the informal sector's role in managing this waste stream from post-consumer sources.

Good examples of activities aimed at integrating informal sector workers can be found in Singapore's EPR for e-waste, such as partnerships with and the inviting of informal collectors to transition and join the national e-waste management effort.

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6.10.1 Status of EPR Regulations and Other Policies

Thailand is working towards implementing mandatory EPR for packaging. The draft EPR law (i.e., the fifth and final draft of the Sustainable Packaging Management Act) was submitted to the Cabinet in May 2025. The Secretariat of the Cabinet circulated the draft to all ministries and private sector associations for comments during June-July 2025.

Gazetting is envisaged for 2027 and the act will come into force one year after its official publication.

6.10.2 Overall Goal and Key Objectives of the EPR Framework

The overall goal of the packaging EPR law is to promote sustainable packaging management from production through to waste management.

Key objectives include:

- Defining the duties and responsibilities of stakeholders in the packaging supply chain
- Setting the scope and national targets
- Making the packaging management system transparent and efficient
- Supporting public awareness

6.10.3 Products in Scope

The five-year plan for promoting sustainable packaging management in section 18 of the draft Sustainable Packaging Management Act will be prepared by the Minister, with advice from the Policy Committee. The plan is required per the draft Act to contain, at the least: details about targets for glass, metal, paper, plastic and composite materials; measures to promote sustainable packaging management; and packaging management standards that align with international principles. Section 30 empowers the Minister to issue notifications specifying the types and kinds of packaging.

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6.10.4 Obligated Companies

As per section 3, producer means:

1. A producer who manufactures products using packaging under their own trademark, or a contract manufacturer or a person who has obtained the right to manufacture products, where the contracting party or trademark owner is not located in Thailand, for sale or distribution within the Kingdom, excluding production for export purposes
2. An importer of products using packaging for sale or distribution in the Kingdom under their own trademark or that of others
3. A producer or importer of packaging for sale or distribution within the Kingdom, excluding sales to persons under (1)
4. A person who commissions the production of packaging under their own trademark, with the intention to sell or distribute such packaging themselves or to use it in providing services to consumers
5. A digital platform service operator under the law on digital platform service business that is required to be notified, for sale or distribution within the Kingdom, excluding persons under (1) – (4)

Producers may be exempted from the registration requirement and from compliance with this act, subject to the criteria, procedures and conditions prescribed by the Minister with the approval of the Management Committee.

6.10.5 National Targets

The national targets have not been specified yet. The five-year plan will be prepared and published by the minister. The plan will contain targets for packaging management along the value chain for design, production, distribution, consumption, segregation, collection, recycling and disposal, as well as other targets supporting sustainable packaging management (Section 18). The targets will vary depending on the material type.

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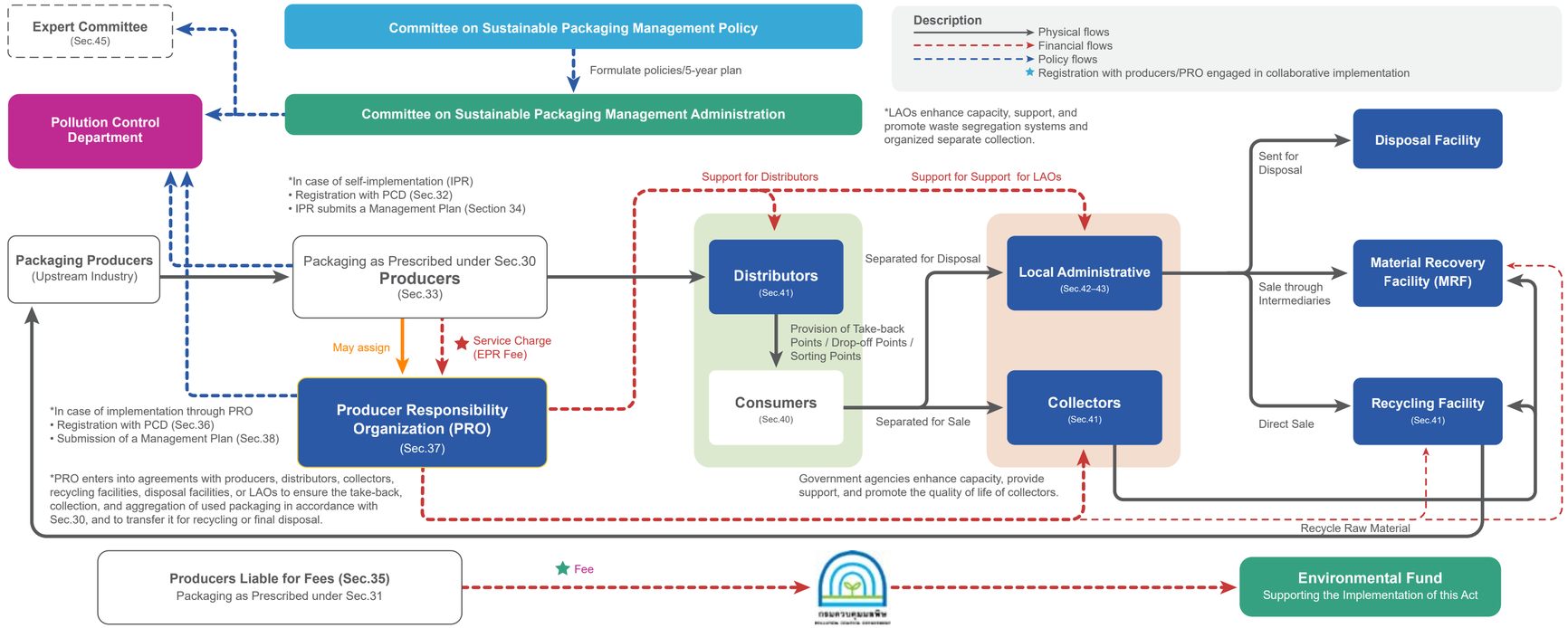
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6.10.6 Overview of the EPR Scheme

(public oversight bodies and/or a coordination entity, PROs, information and financial flows)



Government agencies with responsibilities under the policies and plans for promoting sustainable packaging management under Section 17 and Section 18 shall have the authority and duty to implement the policies and plans accordingly. To ensure the effective achievement of the objectives and targets, the Pollution Control Department shall coordinate, monitor and prepare annual reports on the implementation of such policies and plans for submission to the Policy Committee.

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6.10.7 Existence and Role of National Governance Bodies

This subsection presents national governance bodies in Thailand and the roles they play in the EPR system:

Committee on Sustainable Packaging Management Policy

- Approve the policy for promoting sustainable packaging management
- Approve the determination of details regarding types, quality, characteristics and raw materials or materials used in the production of packaging that is prohibited from sale
- Approve the determination of prohibition or restriction on the use of certain types or kinds of packaging in certain areas
- Approve the determination of types and kinds of packaging that are difficult to collect for recycling, which are subject to fees and to determine fee rates, in accordance with Section 31
- Supervise and expedite the enactment of Royal Decrees, issuance of Ministerial Regulations, regulations, local ordinances, announcements, rules and orders necessary for the effective enforcement of this act, in order to assist and promote sustainable packaging management
- Propose economic, financial and fiscal measures, including other measures, to the Council of Ministers for compliance with policies and plans for promoting sustainable packaging management
- Propose amendments, additions or improvements to laws related to the promotion of sustainable packaging management to the Council of Ministers

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6.10.7 Existence and role of national governance bodies

Committee on Sustainable Packaging Management Administration

- Propose recommendations for the formulation of policies for promoting sustainable packaging management to the Policy Committee under Section 17
- Advise the Minister on the preparation of the plan for promoting sustainable packaging management under Section 18
- Prepare proposals regarding the determination of types, quality, characteristics and raw materials or materials used in the production of packaging that is prohibited from sale, for submission to the Minister
- Prepare proposals regarding the prohibition or restriction on the use of certain types or kinds of packaging in certain areas, for submission to the Minister
- Approve the determination of types and kinds of packaging required to be collected for recycling
- Prepare proposals regarding the determination of types and kinds of packaging that are difficult to collect for recycling, which shall be subject to fees and to determine the rates of such fees
- Approve the determination of guidelines for calculating service fees of packaging management responsible organizations, under Section 39
- Establish measures to promote, support and assist in sustainable packaging management, including measures to encourage government agencies to support sustainable packaging management
- Coordinate among government agencies and the private sector regarding sustainable packaging management
- Implement improvements in the efficiency and standards for promoting environmentally friendly material selection and design and environmental management systems in the recycling process under relevant laws, to support sustainable packaging management
- Propose amendments or improvements to laws related to the management of sustainable packaging to the Policy Committee
- Submit annual reports on the implementation of policies and plans for promoting sustainable packaging management to the Policy Committee
- Perform any other duties as prescribed in this Act, related laws, or as assigned by the Minister

Pollution Control Department

- Coordinate, monitor and prepare annual reports on the implementation of such policies and plans
- Provide recommendations to relevant government agencies for the implementation of the policies and plans
- Register producers or PRO
- Approve the packaging management responsibility plan submitted by producers or PRO

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6.10.8 Roles and Responsibilities Taken Up by a PRO

The envisaged roles of producers or PRO(s) will be the following:

- Register with the Pollution Control Department
- Submit the packaging management responsibility plan. The plan, to be prepared by producers, will be aligned with the national five-year plan and contain: targets, expressed in weight, for used packaging to be collected for reuse and recycling, disaggregated by packaging types; methods of transportation; methods of communication and information provision to consumers or the public to promote the segregation of used packaging; methods to prevent the release of packaging into the environment: and estimated costs related to the implementation of the plan and financial arrangements to cover future costs (Section 44)
- Report the results of implementation to the Pollution Control Department annually by the end of the calendar year

6.10.9 EPR Registry

As per Section 32 and 36, Producers and PRO shall register with the Pollution Control Department. Producers may be exempted from the registration requirement and from compliance with this draft Act, subject to the criteria, procedures and conditions prescribed by the minister with the approval of the Management Committee (e.g. micro and small enterprises).

6.10.10 Inclusion of Informal Sector

Section 29 of the draft of the Sustainable Packaging Management Act states that relevant government agencies shall be responsible for welfare support, quality of life improvements, capacity development and registration of collectors. However, it is not yet clear which agencies will be responsible for that.

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6.11.1 Status of EPR Regulations and Other Policies

The mandatory EPR for the first group of regulated products, including packaging, came into force in Viet Nam on 1 January 2024. However, the regulatory framework has been progressively developed and clarified through various legal instruments since 2020:

- Law No. 72/2020/QH14 – Law on environmental protection (LEP, 2020)
- Decree No. 08/2022/ND-CP and Circular No. 02/2022/TT-BTNMT providing detailed guidance on the implementation of specific provisions of LEP
- Decision No. 252/QD-BTNMT (14.02.2023) on the establishment of the EPR Council
- Decree 05/2025/ND-CP amending Decree 08/2022/ND-CP
- Circular No. 07/2025/TT-BTNMT amending Decree 08/2022/ND-CP.

Mandatory EPR Implementation Roadmap:

From Jan 1, 2024
Packaging, batteries, accumulators, lubricating oils, inner tubes & tires

From Jan 1, 2025
Electrical and electronic products

From Jan 1, 2027
Vehicles *(transport means)*

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6.11.2 Overall Goal and Key Objectives of the EPR Framework

The overall goal is to enhance environmental protection and promote sustainable development by **assigning responsibility to producers and importers** for the management of waste derived from their products and related packaging.

Key objectives:

Assign Legal Responsibility to Producers and Importers: Under Article 54 and Article 55 of the LEP and further elaborated in Decree No. 08/2022/ND-CP, producers and importers are obligated to organize or financially contribute to the collection, recycling and treatment of their post-consumer products and packaging.

Strengthen Recycling and Treatment Systems: Enhance waste collection, recycling and disposal capacity by integrating producer-financed systems with national waste management infrastructure.

Ensure Financial Contributions through EPR Fund: Require financial contributions to the Viet Nam Environmental Protection Fund (VEPF) for those producers/importers who opt not to directly carry out recycling activities (as stipulated in Article 78 of Decree No. 08/2022/ND-CP).

Promote Transparency and Reporting: Establish clear obligations for registration, reporting and public disclosure to ensure transparency in EPR implementation and monitoring.

Contribute to Circular Economy Goals: Integrate EPR into broader national strategies for sustainable development and the circular economy by encouraging resource efficiency and waste minimization.

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6.11.3 Products in Scope

The current regulatory framework covers batteries, accumulators, lubricants, tires, electrical and electronic products and packaging, where packaging (both primary and secondary, i.e. direct and outer packaging) of the following product groups is in scope:

- Food as defined by the law on food safety (excluding chewing gum)
- Cosmetics as defined by the law on cosmetic production conditions
- Medicines as defined by the law on pharmaceuticals
- Fertilizers, animal feed, veterinary drugs as defined by the respective laws
- Soaps, detergents, polishes and cleaning agents used in agriculture healthcare and households
- Cement

Notably, Viet Nam covers all packaging materials and not just plastic:

- Paper, carton (including coated paper/carton)
- Multi-layer paper packaging
- Aluminum packaging
- Steel/metal packaging
- Rigid plastics: PET, HDPE, LDPE, PP, PS, PVC, EPS
- Flexible plastic packaging (single or multi-material)
- Glass packaging

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6.11.4 Obligated Companies

Obligated companies are defined as ***"Organizations and individuals producing and importing (hereinafter referred to as manufacturers and importers) the products and packages*** specified in Column 3 of Appendix XXII of Decree No. 08/2022/ND-CP". Exemptions include:

- Manufacturers/importers producing goods for export, temporary import, re-export or for research, education and testing purposes
- Manufacturers/importers with annual revenue below **30 billion VND** from regulated products
- Manufacturers that recover and reuse their own packaging at a rate equal to or higher than the mandatory recycling rate

6.11.5 EPR Compliance Modalities

To fulfilll their obligations, producers may choose between a range of different EPR compliance methods:

- Carry out recycling themselves
- Hire a recycling unit
- Authorize a third party to organize recycling
- Make financial contributions to the Viet Nam Environmental Protection Fund (VEPF) to support recycling

The above methods may be combined. Also, if producers fail to achieve their recycling targets, they must cover the shortfall by paying into the VEPF.

Producers and importers of packaging that is difficult or impossible to recycle (such as single-use plastic products) have no choice but to make financial contributions to VEPF to support the collection, transportation and treatment of waste

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6.11.6 National Targets for Packaging

Viet Nam has set mandatory recycling rates for the first 3 years, with the intention of adjusting them gradually every 3 years by no more than 10% per adjustment, starting in 2026. For packaging, the following recycling rates apply:

Packaging material	Packaging form	Required recycling rate for first 3 years
Paper	Paper and carton packaging	20%
	Mixed (multi-layer) paper packaging	15%
Metal	Aluminum packaging	22%
	Iron and other metal packaging	20%

Packaging material	Packaging form	Required recycling rate for first 3 years
Plastic	Rigid PET packaging	22%
	HDPE, LDPE, PP, PS rigid packaging	15%
	Rigid EPS packaging	10%
	Rigid PVC packaging	10%
	Other hard plastic packaging	10%
	Flexible plastic packaging (single and multi-material)	10%
Glass	Bottles, jars, glass containers	15%

The mandatory recycling rate is understood to be the ratio of the minimum weight of a product or packaging that must be recycled according to the mandatory recycling specifications in the compliance year to the total weight of a regulated product or packaging put on the market in that year.

If the manufacturer or importer exceeds their recycling obligation in a given year, the excess difference shall be reserved for calculation in the compulsory recycling rate of the following years.

Producers willing to fulfill their EPR obligation via payment to VEPF and not recycling make financial contributions according to fees specified by MONRE[23].

[23]The latest fees were announced in Circular 07/2025/TT-BTNMT amending Decree 08/2022/NĐ-CP.

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- Status of EPR Regulations and Other Policies
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- Products in Scope
- Obligated Companies
- EPR Compliance
- National Targets for Packaging

Overview of the EPR Scheme
- Existence and Role of National Governance Bodies

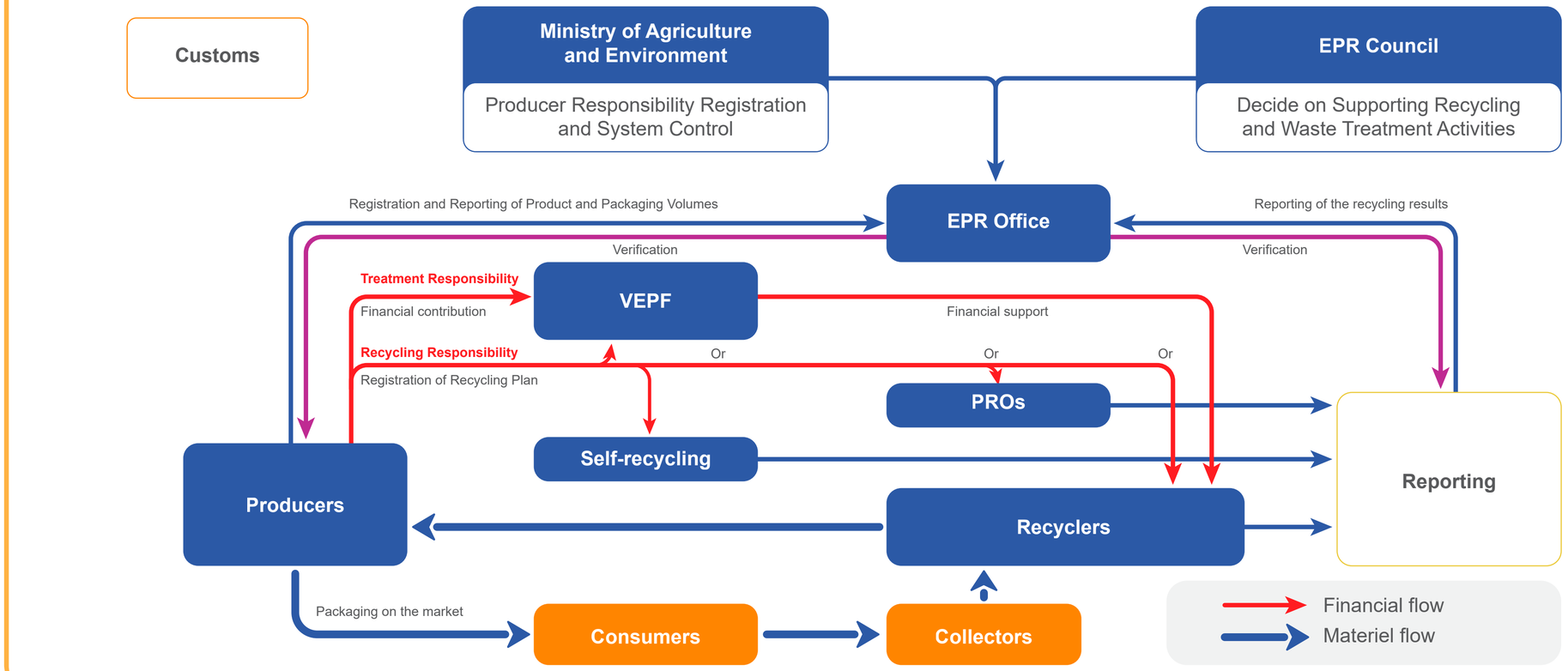
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6.11.7 Overview of the EPR System

(public oversight bodies and/or a coordination entity, PROs, information and financial flows)



6 Focused Review of EPR Policies in the ASEAN Region
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6.11.8 Existence and Role of National Governance Bodies

The EPR National Council, established in February 2023 and serves as an advisory and supporting body to the Ministry of Agriculture and Environment (MAE) in the implementation of EPR. Its key functions include overseeing and supporting the recycling, collection and treatment of waste products subject to EPR. The Council also plays a vital role in advising on the management and allocation of financial contributions made to VEPF by producers and importers, including setting criteria and priorities for funding support, evaluating proposals and approving regulations related to the use of these funds.

The National EPR Council has a supporting office (hereinafter referred to as the EPR Office) located at the Ministry of Agriculture and Environment. **The EPR Office** has a legal status and its own seal, bank account and financial autonomy. It operates independently, like a public service unit that ensures both regular and investment expenditures.

The **Viet Nam Environmental Protection Fund** manages the financial contributions from manufacturers/importers and updates, reports and publicly discloses the use of these funds.

6.11.9 Roles and Responsibilities Taken Up by a PRO

Producer Responsibility Organizations are not explicitly named in Vietnamese laws. However, their functions are performed by the so-called “authorized parties”[24]. They may act on behalf of their members to carry out waste collection, recycling, or treatment activities, or to make financial contributions to VEPF. They are responsible for submitting producer EPR implementation plans, compliance reports and related documentation to the MONRE, ensuring transparency and regulatory oversight.

The party authorized to become a PRO must satisfy the following requirements:

- Have a **Legal Entity Status** under Vietnamese law
- Have **Authorization from at least 3 Producers/Importers**
- Does not directly recycle or have an ownership relationship with any recycler related to the authorized scope

Currently, there is only 1 PRO for packaging accredited by MONRE: Packaging Recycling Joint Stock Company - PRO Viet Nam.

[24]Decree No. 08/2022/ND-CP, art. 79

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6.11.10 EPR Registry

The EPR Registry is managed by the EPR office. It is an online registration system where producers and importers of regulated products and packaging must register their **annual recycling plan** and **report recycling results** of the previous year before March 31 each year (in case of compliance via a PRO, this shall be done by a PRO). Producers/importers who opt for making financial contributions to the VEPF are not required to register their recycling plans or report their recycling results.

The recycling plan is based on the weight of regulated products and packaging put on the market the previous year and the producer/importer or PRO takes legal responsibility for the accuracy of the data therein and the recycling results reported.

If the actual put-on-market weight is greater than that specified in the registered recycling plan, the producer/importer must carry forward the difference to the next year's recycling plan. If the actual put-on-market weight is less than that specified in the registered recycling plan, the producer/importer is entitled to carry out recycling and report recycling results according to the actual weight.

Procedure For Registering Plans, Reporting Recycling Results and Making Financial Contributions To Support Recycling

31/03 2025	20/04 2025	31/03 2026

Register their recycling implementation plan declare their financial contributions to VEPF

- Self-organized recycling: Register the recycling plan on the National EPR Information System
- Financial contribution to the Viet Nam Environmental Protection Fund (VEPF): Declare the contribution amount to support recycling on the National EPR Information System
- Calculated based on the quantity of products and packaging produced or imported and placed on the market in the previous year (2024)

Producers and importers of packaging and products such as batteries, accumulators, lubricants and tires who have registered and implemented a recycling plan in 2024 may count the volume of recycling that meets regulations toward the recycling results for 2025.

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6.11.10 EPR registry

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Procedure For Registering Plans, Reporting Recycling Results and Making Financial Contributions To Support Recycling

31/03 2025

20/04 2025

Financial Contribution

If the financial contribution option is chosen, the full declared amount must be paid to the Viet Nam Environmental Protection Fund before April 20.

20/03 2026

Register their recycling implementation plan declare their financial contributions to VEPF

Recycling Result Report for 2025 (If a recycling plan was registered for 2025)
Producers/importers and the relevant recycling units or authorized third parties are all required to report the recycling results actually carried out in 2025

Register Plan/Declare Financial Contribution for 2025 Recycling Obligation
Register a recycling plan or declare financial contribution based on the volume subject to **recycling responsibility for the year 2025**

Producers and importers of packaging and products such as batteries, accumulators, lubricants and tires who have registered and implemented a recycling plan in 2024 may count the volume of recycling that meets regulations toward the recycling results for 2025.

6.11.11 Inclusion of Informal Sector

The legal framework does not mention collectors, or the informal sector in particular. There are however private initiatives led by international brands (individually, in partnership with PRO Viet Nam and/or various NGOs), aiming at improving the working conditions of informal waste collectors and promoting the use of traceability tools.

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Toolkit



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Extract Toolkit

Click the button to extract the Toolkit

**Requirement: Use Adobe Acrobat/PDF reader*
**Disclaimer: No links will work in the extracted file*

If you want to print the Toolkit to PDF, click on the printer icon and select "Print to PDF" from the drop-down list

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How to navigate the Toolkit Click the title to move between sections

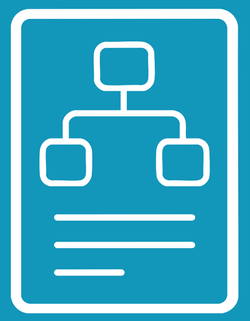
7 Toolkit

Practical Tools



Checklist

A checklist is a structured list of items, tasks, or criteria that need to be verified, completed, or considered in a given process or procedure.



Decision Tree

A decision tree is a comparative tool that helps evaluate options based on predefined criteria to guide a final choice.



Factsheet

A factsheet is a short, informative document that summarizes essential facts about a specific topic, regulation, or process in a clear and accessible way.



Guidance Note

A guidance note is a concise advisory document that provides practical instructions, interpretations, or recommendations on how to implement, comply with, or approach a specific policy, regulation, or operational task.



Template

A template is a standardized document structure with fixed clauses and customizable fields.

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1 Inception

1.1 EPR Readiness Assessment

1.1.1 Excel Tool: Assessing EPR Implementation Readiness on Country Level

See EPR IRAT tool

Users

Policymakers

Handbook Reference

4.1.1: EPR Readiness Assessment

How to use IRAT:

Download the file on the link below.

EPR IRAT

Read the Introduction.

Select values from the allowed ranges in column D on all three tabs

- Regulatory framework
- WM (Waste Management) operations
- Producer & other aspects

Use the comments section in column H to support your evaluation. For a more objective and accurate assessment, consider engaging a wider team of experts representing all three dimensions of the assessment (regulations, waste management operations, and producer and other aspects).

Consult the tab “Results” for interpretation of the outcome.

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1.2 Objectives of EPR

1.2.1 Checklist: Defining Objectives of an EPR System

Users

All

Handbook Reference

4.1.2. Objectives of EPR

How to use the checklist:

Review the list of objectives and their type of contribution.

Select the objectives that are prioritized in your country.

Identify an indicator that will be used to measure each selected objective.

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1.2.1 Checklist: Defining Objectives of an EPR System

1. Environmental Objectives	2. Operational Objectives	3. Economic Objectives	4. Social Objectives

Select	Objective[1]	EPR Contribution	Possible Indicator
☐	Litter reduction (minimization of leakage into the environment)	EPR is a strong enabler but not fully sufficient on its own	Tonnage of waste removed from the environment or reduction of arising waste
☐	Marine pollution reduction	EPR contributes significantly but requires complementary policies	Tonnage of waste removed from the marine environment or reduction of arising waste
☐	Landfill diversion	EPR can directly achieve this objective	% of waste diverted from landfill
☐	Reduction of mismanaged plastic packaging waste (land-based system performance)	EPR is a strong enabler but not fully sufficient on its own	% of waste collected but handled in a substandard manner
☐	Improved recycling rates	EPR can directly achieve this objective	% of post-consumer packaging waste recycled
☐	Improved reuse rates	EPR is not a primary driver and cannot deliver meaningful outcomes without strong complementary policies	% of packaging reused
☐	Waste prevention/reduction (overall volume of waste generated)	EPR plays a supporting role; other tools are essential	Total waste generated per capita (kg/year); Reduction in plastic packaging entering the market
☐	Increased circularity of plastic materials	EPR can directly achieve this	% of recycled content used in production
☐	GHG emissions reduction	EPR contributes to emissions reduction, but requires complementary policies	CO_2 emissions avoided (tons/year)

[1]These objectives were placed in order of urgency and position along the value chain

See also 3.2. Factsheets on Target Setting and Design Requirements

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1.2.1 Checklist: Defining Objectives of an EPR System

1. Environmental Objectives | **2. Operational Objectives** | 3. Economic Objectives | 4. Social Objectives

Select	Objective[1]	EPR Contribution	Possible Indicator
☐	Increased collection capacity	EPR can directly achieve this objective	% of population with access to waste collection
☐	Improved sorting quality	EPR can directly achieve this objective	% of contamination in the plastics stream
☐	Reinforced recycling infrastructure	EPR is a strong enabler but not fully sufficient on its own	Installed recycling capacity (tons/year)
☐	Achieving source segregation	EPR contributes significantly but requires complementary policies	% of population with access to segregated collection infrastructure (containers & transport) % of contamination in plastics stream

[1]These objectives were placed in order of urgency and position along the value chain

See also 3.2. Factsheets on Target Setting and Design Requirements

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1.2.1 Checklist: Defining Objectives of an EPR System

1. Environmental Objectives	2. Operational Objectives	3. Economic Objectives	4. Social Objectives

Select	Objective[1]	EPR Contribution	Possible Indicator
☐	Sustainable financing for waste systems	EPR can directly achieve this objective	EPR funds collected annually (amount/year) EPR funds contribution to the overall MSW cost (%) Increased recycling capacity (tons/year)
☐	Cost coverage by municipalities	EPR can directly achieve this objective	Contribution of EPR funds to overall MSW cost (%)
☐	Internalizing environmental costs	EPR can directly achieve this objective	Decrease in % of unmanaged packaging waste under EPR Achieved return rate by EPR systems (%)
☐	Stimulating recycling markets/ supply of recyclables	EPR is a strong enabler but not fully sufficient on its own	% of increase in recycled content in products (tons/year) Increased recycling capacity (tons/year)
☐	Increasing local demand for recycled material	EPR can directly achieve this objective	% of increase in recycled content in products (tons/year)
☐	Creating industrial investment incentives	EPR contributes significantly but requires complementary policies	Investment in recycling infrastructure (amount/year)
☐	Improving overall waste system efficiency	EPR is a strong enabler but not fully sufficient on its own	Cost per ton of waste managed

[1]These objectives were placed in order of urgency and position along the value chain

See also 3.2. Factsheets on Target Setting and Design Requirements

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1.2.1 Checklist: Defining Objectives of an EPR System

1. Environmental Objectives	2. Operational Objectives	3. Economic Objectives	4. Social Objectives

Select	Objective[1]	EPR Contribution	Possible Indicator
☐	Inclusion and formalization of the informal sector	EPR contributes significantly but requires complementary policies	% of informal workers integrated into formal system % of increase in MSW collected through formal channels
☐	Skills development and job creation	EPR is a strong enabler but not fully sufficient on its own	Number of jobs created in waste management
☐	Increasing the skills of women to provide better and more stable working opportunities	EPR contributes	% of women formally employed in the waste management sector (all levels)

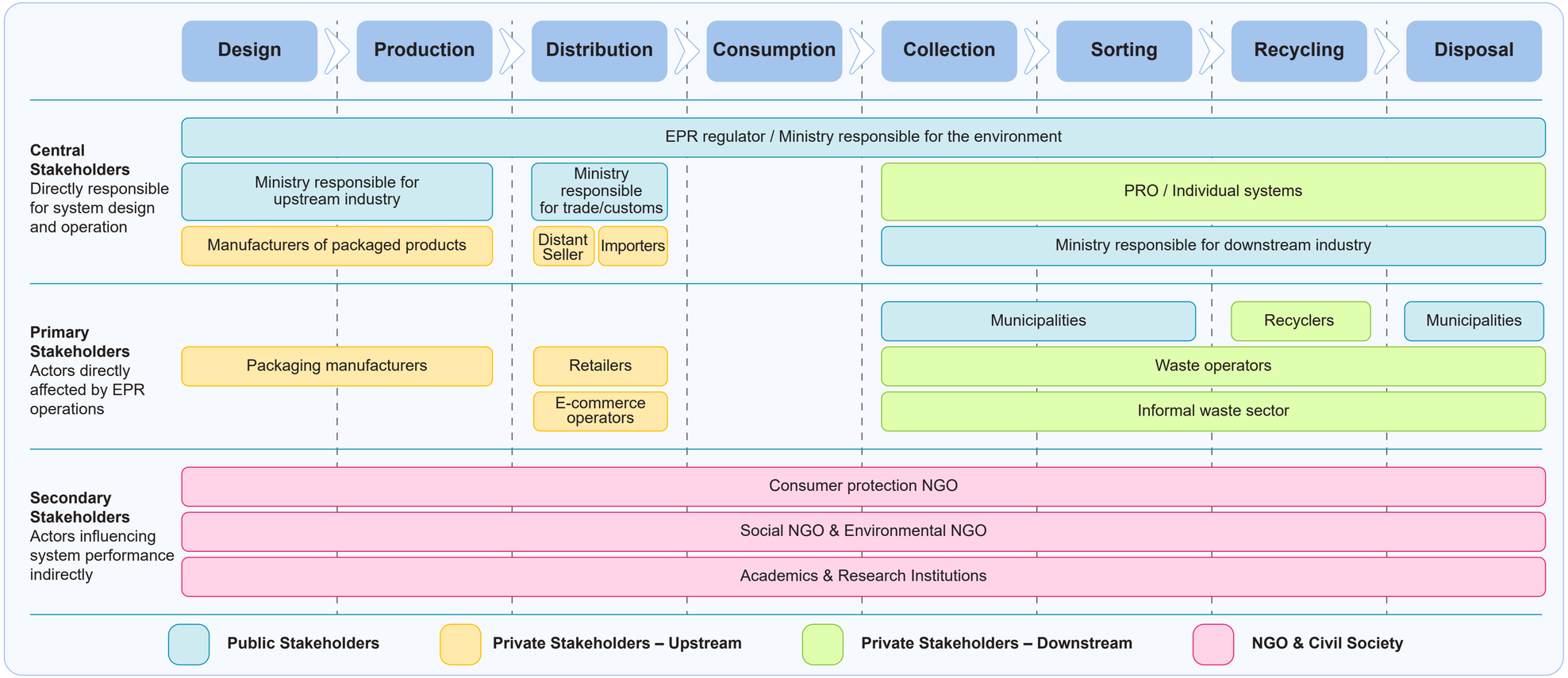
[1]These objectives were placed in order of urgency and position along the value chain

See also 3.2. Factsheets on Target Setting and Design Requirements

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1.3 Stakeholders and Lifecycle Stages Affected

1.3.1 Diagram: Summary Overview of Typical Stakeholders Broken Down by Lifecycle



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1.3.2 Matrix: Stakeholder Identification

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Policymakers

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4.1.3. Stakeholders and Lifecycle Stages Affected

How to use this Stakeholder Identification Matrix:
This matrix provides an indicative list of stakeholders commonly involved in EPR systems, from design and production through to waste management and recycling.
The lifecycle roles may vary depending on the regulatory framework, market structure and waste management arrangements in each AMS.
Users are encouraged to adapt the table to reflect their national context.

Guiding Questions	Typical Stakeholders	Lifecycle Stage(s) Involved	Add here the stakeholders in your country	Contact information
Step 1: Identify public authorities responsible for packaging, waste management and environmental regulation				
• Which authority is responsible for developing and issuing EPR regulations? • Which authority oversees waste management and packaging regulation? • Which authority will be responsible for monitoring compliance, approving Producer Responsibility Organizations (PROs) and reporting national recycling targets?	Ministry in charge of environment	Regulation/Oversight		
	National environmental authority/agency	Oversight		
	Ministry responsible for industry	Design/Production/ Waste Processing		
	Customs authorities/ Ministry of trade	Import/Market entry		
	Municipal governments	Collection/Sorting/ Disposal		

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Guiding Questions	Typical Stakeholders	Lifecycle Stage(s) Involved	Add here the stakeholders in your country	Contact information
Step 2: Identify upstream private sector actors across the packaging value chain				
• Which entities place regulated product on the market? • Which industry associations or producer groups represent these actors? • Which actors are likely to have EPR obligations (e.g., registration, reporting, financing, PRO participation)?	Packaging and packaged products producers and their associations	Design/Production/ Market entry		
	Importers of packaged products	Market entry		
	Retailers/distributors and their associations, online sellers and marketplaces	Distribution/Retail		
	Producer Responsibility Organizations (PROs) *(if considered in the EPR framework)*	Collection/Recycling coordination/ Awareness/ Monitoring		
Step 3: Identify downstream actors – waste management				
• Which entities conduct waste management services such as collection, transportation, storage, recycling, disposal?	Waste collection companies and their associations	Collection		
	Recycling companies and their associations	Sorting/Recycling		
	Informal waste collectors and their associations	Collection/Sorting		

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Guiding Questions	Typical Stakeholders	Lifecycle Stage(s) Involved	Add here the stakeholders in your country	Contact information
Step 4: Identify civil society, community actors				
• Which NGOs, community organizations, consumer groups or informal sector representatives are active in waste management, recycling or environmental advocacy? • Which actors can support awareness, monitoring or inclusion efforts in EPR implementation?	NGOs (environmental, social and consumer) and civil society organizations	Awareness/ Monitoring		
	Consumer associations	Consumption/ Awareness		
	Research institutions	Policy support/ Analysis		

Check how to establish cooperation between stakeholders in Toolkit section 7.3 Dialogue Platform

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2 Scoping

2.1 Stakeholders and Lifecycle Stages Affected

2.1.1 Checklist: Defining Eligible Plastic Product Under EPR

Handbook Reference

4.2.1. Products under EPR

How to use this Checklist:
This checklist provides a list of exemplary plastic packaging subject to EPR regulations. Review the table and reflect on which categories of plastic packaging should be included in your national EPR framework.

Examples of eligible products

See also Toolkit 3.1 Factsheet on Common EPR Definition

Category	Application	Plastic Types	Pictures	The EPR framework should include this category
Primary Packaging	Food & Beverages	PET bottles and jug		☐
		Polycarbonate (PC) gallon		☐
		HDPE bottles		☐
		PP cups and box		☐

2 Scoping
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Checklist: Defining Eligible Plastic Product Under EPR
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2.1.1 Checklist: Defining Eligible Plastic Product Under EPR

Examples of eligible products

See also Toolkit 3.1 Factsheet on Common EPR Definition

Category	Application	Plastic Types	Pictures	The EPR framework should include this category
Primary Packaging	Food & Beverages	PS containers		☐
		Multilayers (Constructed with multiple layers of different types of plastics or plastics and other materials, for example, BOPP, MET-PET, CPP, LLDPE but also paper and aluminu)		☐
		PET/PVC tray		☐
	Home care	PET bottles, cup		☐
		PP bottles		☐
		Multilayers		☐
	Personal Care	PET bottles		☐

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2.1.1 Checklist: Defining Eligible Plastic Product Under EPR

Examples of eligible products

See also Toolkit 3.1 Factsheet on Common EPR Definition

Category	Application	Plastic Types	Pictures	The EPR framework should include this category
Primary Packaging	Personal Care	HDPE bottles, pot, roller		☐
		LDPE tube		☐
		Multilayers		☐
		PETG/Acrylic/PP double walled		☐
	Other FMCG	PVC/PETG		☐
	Durable goods	PS/LDPE/PP		☐

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2.1.1 Checklist: Defining Eligible Plastic Product Under EPR

Examples of eligible products

See also Toolkit 3.1 Factsheet on Common EPR Definition

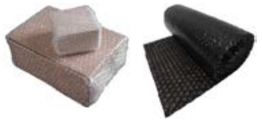
Category	Application	Plastic Types	Pictures	The EPR framework should include this category
Secondary Packaging	Multipacks/bundling	LDPE/LLDPE/PVC shrink sleeve		☐
		HDPE crate		☐
Tertiary Packaging	Transport & logistics	LDPE stretch film/ shrink wrap/bubble wrap		☐
		HDPE/PP pallet		☐
Service Packaging	Food and Beverages	PP Thin Wall		☐
		Expanded Polystyrene (EPS) Box		☐

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2.1.1 Checklist: Defining Eligible Plastic Product Under EPR

Examples of eligible products

See also Toolkit 3.1 Factsheet on Common EPR Definition

Category	Application	Plastic Types	Pictures	The EPR framework should include this category
Service Packaging	Food and Beverages	HDPE Bag		☐
		LDPE Ziplock Pouch		☐
		OPP Adhesive Bag		☐
Delivery Packaging	Transport & Logistics	LDPE Poly Mailer		☐
		LDPE Bubble Wrap		☐
		PE Foam Sheet		☐

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2.2 Producers Under EPR

Users

Policymakers, obligated entities (brand owners, importers and e-commerce operators) and PRO(s)

Handbook Reference

4.2.2. Producers under EPR

How to use this factsheet:
An EPR producer is typically "the entity that first professionally places plastic packaging or packaged products on the national market". However, the regulator may want to focus on certain economic actors and opt for a different angle; this may, in turn, require careful design to avoid freeriding, obligation overlap and multiple payment.

Policymakers are advised to:

- Study the country examples provided.
- Study roles of various actors and determine which players should be considered producers in their national EPR frameworks, based on the key implications listed in the checklist.
- Study the overview of actors that could be considered as producers under EPR, broken down by value chain to understand the function of various producers along the value chain and the possible overlaps.

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2.2.1 Factsheet: Producer Definition (country examples)

Category	Producer Definition	1/5
 Philippines	**EPR Act (RA 11898)** Product producer shall refer to any of the following persons: (1) Brand owner who sells or supplies any commodity under a brand, label or identity using a product it produced, or a material supplied to it by another manufacturer, or supplier; and (2) Product manufacturer or importer that supplies its commodities for the use of the general consumer, or distributes the same as a material product of a brand owner: provided that for purposes of Article 2 of Chapter III-A, in case the commodities are manufactured, assembled or processed by a product manufacturer for another obligated enterprise which affixes its own brand name, the latter shall be deemed as the manufacturer	
 Viet Nam	**Decree No. 08/2022/ND-CP (Implementing Regulation of the Law on Environmental Protection 2020)** The recycling obligation is imposed on entities that: (a) Manufacture: Produce products or packaging within the territory of Viet Nam. (b) Import: Bring products or packaging into Viet Nam from abroad. (c) Place on the market: Distribute or circulate products or packaging for domestic consumption. **Strengthened by Decree No. 05/2025/ND-CP** Organizations or individuals whose names are on the product labels and who are responsible for the quality and labeling of goods as prescribed by law.	

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2.2.1 Factsheet: Producer Definition (country examples)

Category	Producer Definition	2/5
 Indonesia	**Minister of Environment and Forestry Regulation No. P.75 of 2019[2]** A producer is a business actor that produces goods using packaging, distributes goods using packaging derived from imports, or sells goods using containers that cannot be or are difficult to decompose by natural processes.	
 Singapore	**Resource Sustainability Act 2019 Section 19** "(2) In this Part, "producer", in relation to any specified packaging, means a person (A) who carries on a business of supplying regulated goods in Singapore and in furtherance of that business — (a) imports specified packaging by importing regulated goods that have been packed into or with, or wrapped with, specified packaging; or (b) uses specified packaging — (i) by packing the regulated goods into or with specified packaging or wrapping the regulated goods with specified packaging; (ii) by engaging another person to do anything mentioned in sub-paragraph (i) for or on behalf of A or otherwise causing anything mentioned in sub-paragraph (i); (iii) where A supplies the regulated goods to a retailer, by providing specified packaging to the retailer that A requires the retailer to use in connection with the retailer's supply of the regulated goods; or (iv) where A is a retailer, by providing the specified packaging to a consumer who purchases regulated goods from A, to enable the consumer to put the regulated goods into the specified packaging, but does not include a person who does anything mentioned in paragraph (b)(i) for or on behalf of a Singapore-connected person, or the retailer mentioned in paragraph (b)(iii).	

[2]At the time of creation of this Toolkit, P.75 is being revised

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2.2.1 Factsheet: Producer Definition (country examples)

Category	Producer Definition	3/5
 Thailand	**Draft Sustainable Packaging Management Act (2025) Article 3** “Manufacturer” means: (1) Manufacturers whose products are packaged under their own trademarks or contractors who produce or have the right to produce products in case the employer or trademark owner is not located in Thailand for sale or distribution in the Kingdom. Importers of products that are packaging for sale or distribution in the Kingdom under their own trademarks or those of others. (2) Manufacturers or importers of packaging for sale or distribution in the Kingdom, excluding the sale to persons under (1). (3) The employer produces packaging under its own trademark in order to sell or distribute the packaging itself or use it for service to consumers. (4) Digital platform service operators in accordance with the Law on the Business of Digital Platform Services that have been notified for sale or distribution in the Kingdom, excluding persons under (1) - (4).	
 India	**Plastic Waste Management Rules (2016, amended 2022)** Producer means a person engaged in manufacturing of plastic packaging; and includes a person engaged in the manufacture of intermediate material to be used for manufacturing plastic packaging, and also the person engaged in contract manufacturing of products using plastic packaging or through other similar arrangements for a brand owners.	

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2.2.1 Factsheet: Producer Definition (country examples)

Category	Producer Definition	4/5
EU	**Packaging and Packaging Waste Regulation (2025/40), Art. 3** 'Producer' means any manufacturer, importer or distributor to whom, irrespective of the selling technique used, including by means of distance contracts, one of the following applies: (a) the manufacturer, importer or distributor is established in a Member State and makes available for the first time from within the territory of that Member State and on that same territory transport packaging, service packaging or primary production packaging, whether as single-use packaging or as reusable packaging; or (b) the manufacturer, importer or distributor is established in a Member State and makes available for the first time from within the territory of that Member State and on that same territory products packaged in packaging other than those referred to in point (a); or (c) the manufacturer, importer or distributor is established in a Member State or in a third country and makes available for the first time on the territory of another Member State, directly to end users, transport packaging, service packaging or primary production packaging, whether as single-use packaging or as reusable packaging; or (d) the manufacturer, importer or distributor is established in a Member State or in a third country and makes available for the first time on the territory of another Member State, directly to end users, products packaged in packaging other than those referred to in point (c); or (e) the manufacturer, importer or distributor is established in a Member State and unpacks packaged products without being an end user, unless another person is the producer as defined in point (a), (b), (c) or (d).	

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2.2.1 Factsheet: Producer Definition (country examples)

Category	Producer Definition	5/5
United Kingdom	**The Producer Responsibility Obligations (Packaging and Packaging Waste) Regulations 2024** (1) A person is a producer for the purposes of these Regulations if the person: (a) is established in the United Kingdom; (b) is one or more of the following (referred to in these Regulations as classes of producer): (i) a brand owner; (ii) a packer/filler; (iii) an importer or first UK owner; (iv) a distributor; (v) an online marketplace operator; (vi) a service provider; or (vii) a seller; and (c) performs the functions in relation to packaging specified in regulations 16 to 22 as apply to that class or those classes of producer: (i) in the United Kingdom; (ii) in the course of business; and (iii) either themselves or through an agent acting on their behalf.	

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2.2.2 Checklist: Producers Under EPR

Actor category	Role	Key implication if considered "producer" under EPR	To be included in national EPR framework
Domestic packaged product manufacturers	Place packaged products on the market locally	Ensures local production is covered	☐
Packaged goods importers	Introduce packaged products from abroad into the country	Prevents free-riding from imports; prevents giving a competitive advantage to imported goods	☐
Packaging manufacturers (converters)	Convert polymers into packaging	Creates overlap with producers of packaged products	☐
Packaging importers	Introduce packaging from abroad into the country	Prevents free-riding from imports; prevents giving a competitive advantage to imported goods. Creates overlap with producers of packaged products	☐
Polymer manufacturers	Manufacture polymers	Creates an overlap with producers of packaged products	☐
Polymer importers	Import polymers	Creates an overlap with producers of packaged products	☐

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2.2.2 Checklist: Producers Under EPR

Actor category	Role	Key implication if considered "producer" under EPR	To be included in national EPR framework
Service packaging manufacturers	Provide packaging for takeaway or retail use	Though not always considered, help expand scope to high-leakage stream: single use plastics	☐
Brand owners	Control product design and packaging decisions	Brand owner may also be a manufacturer, an importer or a distance seller	☐
E-commerce: distance sellers	Sell directly from abroad to national consumers (end user)	Addresses regulatory gaps in digital markets, prevent free-riding from online sellers established abroad	☐
E-commerce: marketplaces	Provide a digital platform over which distance sellers established abroad can trade	Though not considered producers necessarily, they may act as gate keepers to ensure imported goods from distance sellers are actually contributing to the EPR system	☐
E-commerce: In-country logistics fulfillment service providers	Store and deliver goods (packaged products or packaging) imported from abroad to the end user	Though not considered producers necessarily, they may act as gate keepers to ensure imported goods from distance sellers are actually contributing to the EPR system	☐

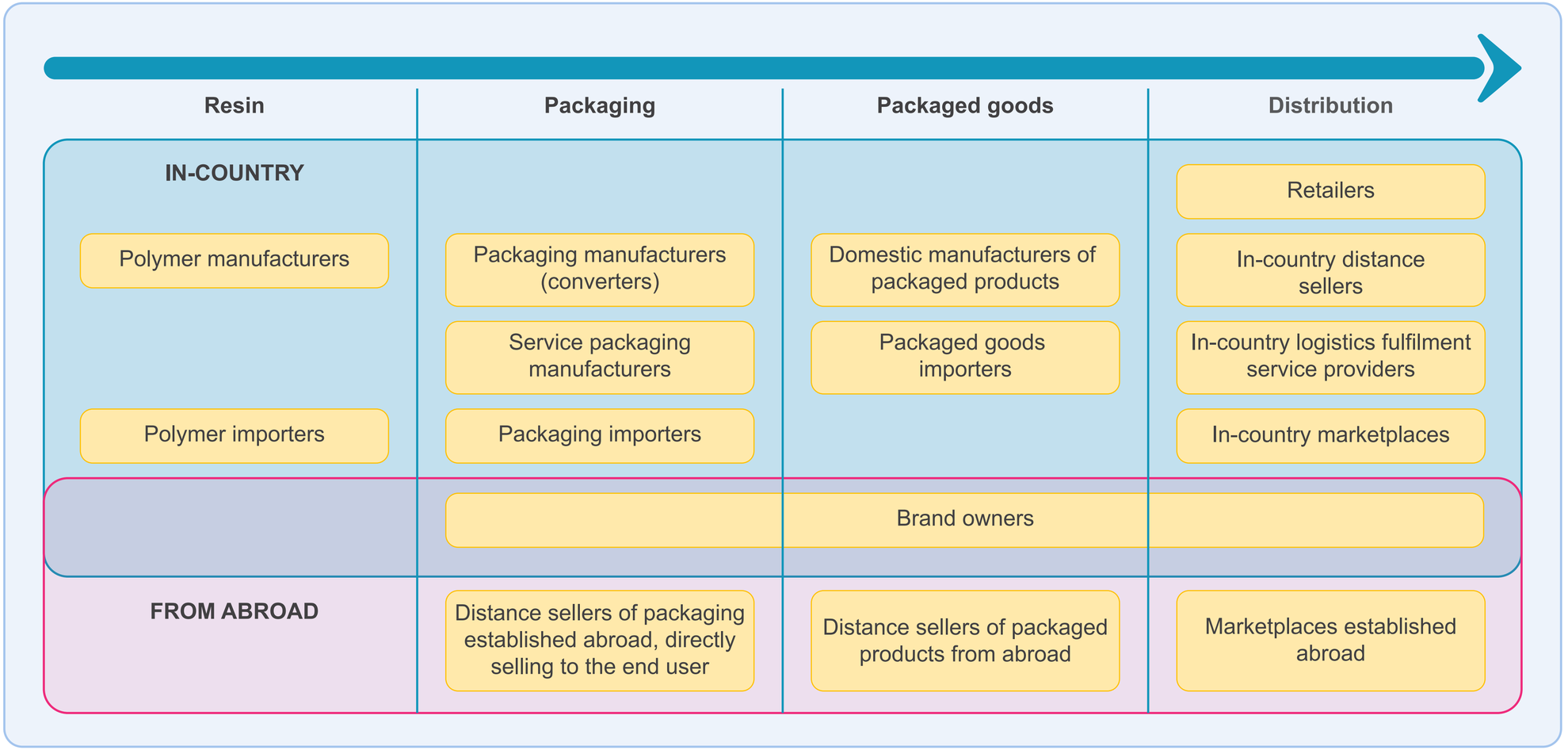
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The below figure will help you verify if you have included all relevant actors:

Overview of actors that could be considered as producers under EPR, broken down by value chain

See also Toolkit 3.1: Definitions



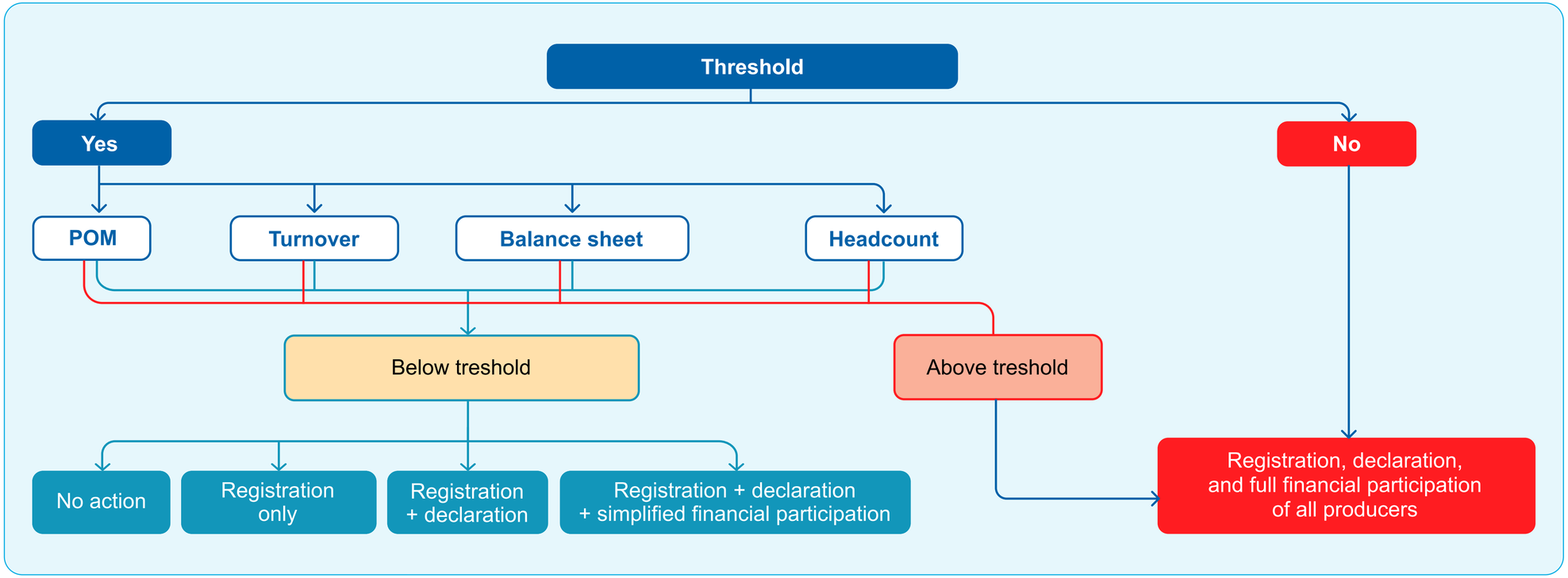
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2.3.1 Decision Tree: Threshold for Producer Participation

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4.2.2. Producers under EPR



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3 Design

3.1 Definitions

3.1.1 Factsheet: Common EPR Definitions

Users
Policymakers

Handbook Reference
4.3.1. Definitions

How to use this tool:
Clear and consistent definitions are essential for ensuring that EPR regulations are interpreted uniformly by producers, authorities, municipalities and waste operators. Ambiguous definitions may create loopholes, inconsistent reporting or enforcement difficulties.

Policymakers are encouraged to study the below benchmark examples and make sure that the most important EPR concepts are properly defined in their national legislation.

As can be seen in the examples below, there is a great variety of definitions for the same purpose, and each will lead to specific meanings, scopes and obligations. Each will form a different framework, and some may lead to detrimental undesired effects, such as compliant free-riding, responsibilities overlap or scope narrower than intended. Careful attention should be paid to the wording and assessment of the potential impact.

1/10

Term	Example definition wording	Reference
 Collection	"Collection" shall refer to the act of removing solid waste from the source or from a common storage point.	Philippines - Implementing Rules and Regulations of Republic Act no. 11898 (IRR), Sec. 6
	“Collection means the gathering of waste, including the preliminary sorting and preliminary storage of waste for the purposes of transport to a waste treatment facility.”	EU – Waste Framework Directive (2008/98/EC)

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Term	Example definition wording	Reference
 (EPR) Fees	"Service Charge" means the service charge paid by a manufacturer under Section 33 to the organization responsible for packaging management and which is the manufacturer's agent in collecting the manufacturer's used packaging, handling, or performing other operations specified in this Act.	Thailand - Draft of the Sustainable Packaging Management Act (2025), Sec. 3
	F is the total amount of money that manufacturers and importers must pay to the VEPF[3] for each type of product or package (unit: VND)	Viet Nam – Decree 08/2022/ND-CP, Art. 81 (1)
	Member States shall take the necessary measures to ensure that the financial contributions paid by the producer of the product to comply with its extended producer responsibility obligations: (a) cover the following costs for the products that the producer puts on the market in the Member State concerned: • costs of separate collection of waste and its subsequent transport and treatment, including treatment necessary to meet the Union waste management targets, and costs necessary to meet other targets and objectives as referred to in point (b) of paragraph 1, taking into account the revenues from re-use, from sales of secondary raw material from its products and from unclaimed deposit fees • costs of providing adequate information to waste holders in accordance with paragraph 2 • costs of data gathering and reporting in accordance with point (c) of paragraph 1	EU – Directive 2018/851 amending Directive 2008/98/EC on waste, Art. 8a (4)
 Importer	"Importer shall refer to a natural or juridical person engaged in bringing consumer goods into the Philippines, intended to be sold, whether in original packaging or to be repackaged for distribution to the general public.	Philippines - Republic Act No. 118981 (EPR Act of 2022), Sec. 3
	'Importer' means any natural or legal person established within the Union that places packaging from a third country on the market.	EU – Packaging and Packaging Waste Regulation (2024), Art. 3 (17)

[3]Viet Nam Environment Protection Fund

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3.1.1 Factsheet: Common EPR Definitions

Term	Example definition wording	Reference
 **Packaging (and packaging types)** 1/2	**Section 3:** "Plastic packaging shall refer to the polymer material designed to protect a product from environmental factors, or to carry goods for transportation, distribution, and sale, including service necessities and more particularly described under Section 44-C" **Section 44-C:** *"Plastic Packaging Covered by EPR.* (…), plastic packaging shall refer to products utilized to carry, protect, or pack goods for transportation, distribution, and sale. "Plastic packaging shall include the following: "(a) Sachets, labels, laminates and other flexible plastic packaging products, whether single layer or multilayered with plastics or other materials; "(b) Rigid plastic packaging products, whether layered with any other materials, which include containers for beverages, food, home, personal care and cosmetic products, including their coverings, caps, or lids and other necessities or promotional items, such as cutlery, plates, drinking straws, or sticks, tarps, signage, or labels; "(c) Plastic bags, which include single-use plastic bags, for carrying or transporting of goods, and provided or utilized at the point of sale; and "(d) Polystyrene."	Philippines - Republic Act No. 118981 (EPR Act of 2022), Sec. 3 and 44-C
	'"packaging" means any material or combination of materials used for the containment, protection, handling, delivery or presentation of any goods, but does not include any material that remains in the possession of a producer of specified packaging to be re-used for the containment, protection, handling, delivery or presentation of any goods'	Singapore – Resource Sustainability Act 2019
	"Packaging" means any container or enclosure or packaging box or material used for the encapsulation, packing, transportation, handling, protection, promotion, marketing or sale of the Product, and shall include the assembly of packaging or disposable equipment, which includes packaging, including glass, metal, paper, plastic, and composite materials.	Thailand - Draft of the Sustainable Packaging Management Act (2025)

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3.1.1 Factsheet: Common EPR Definitions

Term	Example definition wording	Reference
 **Packaging (and packaging types)** 2/2	The packaging specified in Clause 1 of this Article refers to the commercial packaging (including direct packaging and outer packaging) of the following products and goods: (a) Food as regulated by law on food safety; (b) Cosmetics as regulated by law regarding the conditions for cosmetic production; (c) Medicines as regulated by law regarding pharmaceuticals; (d) Fertilizers, animal feed, and veterinary medicines as regulated by law regarding fertilizers, animal feed, and veterinary medicines; (e) Detergents and preparations used in the household, agricultural, and medical fields; (f) Cement.	Viet Nam – Decree 08/2022/ND-CP, Art. 77 (2)
	'Packaging' means an item, irrespective of the materials from which it is made, that is intended to be used by an economic operator for the containment, protection, handling, delivery or presentation of products to another economic operator or to an end user, and that can be differentiated by packaging format based on its function, material and design, including: (a) an item that is necessary to contain, support or preserve a product throughout its lifetime, without being an integral part of the product, and which is intended to be used, consumed or disposed of together with the product; (b) a component of, and ancillary element to, an item referred to in point (a) that is integrated into the item; (c) an ancillary element to an item referred to in point (a) that is hung directly on, or attached to, the product and that performs a packaging function, without being an integral part of the product, and which is intended to be used, consumed or disposed of together with the product; (d) an item that is designed and intended to be filled at the point of sale in order to dispense the product, which is also referred to as 'service packaging'; (e) a disposable item that is sold and filled or designed and intended to be filled at the point of sale and which performs a packaging function; (f) a permeable tea, coffee or other beverage bag, or soft after-use system single-serve unit that contains tea, coffee or another beverage, and which is intended to be used and disposed of together with the product; (g) a non-permeable tea, coffee or other beverage system single-serve unit intended for use in a machine and which is used and disposed of together with the product.	EU – Packaging and Packaging Waste Regulation (2024), Art. 3 (1)

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Term	Example definition wording	Reference
 **Placing on the Market (POM)**	Placing on the market refers to the action by manufacturers or importers placing specific products and packaging onto the market. Article 80: The registration of the recycling plan is calculated according to the volume of products and packaging produced on the market in the previous year (…) According to the volume of products, the actual packaging produced is put on the market and imported. Article 81: V is the volume of products and packaging produced, put on the market and imported in the year of implementing the recycling responsibility (unit: kg)	Viet Nam – Decree 08/2022/ND-CP
	"Placing on the market means the first making available of a packaging, whether empty or with a product, on the Union market."	EU – Packaging and Packaging Waste Regulation (2024), Art. 3 (10)
 **Plastics**	Plastic shall refer to a synthetic material made from a wide range of organic polymers such as polyethylene terephthalate, high density polyethylene, low density polyethylene, polypropylene, polystyrene, PVC and nylon that can be processed to form solid objects of various shapes	Philippines - Republic Act No. 118981 (EPR Act of 2022), Sec. 3 and 44-C
	"Plastic means material which contains as an essential ingredient a high polymer such as polyethylene terephthalate, high density polyethylene, vinyl, low density polyethylene, polypropylene, polystyrene resins, multi-materials like acrylonitrile butadiene styrene, polyphenylene oxide, polycarbonate and polybutylene terephthalate"	India – Goa Municipal Plastic Waste Management Bye-laws, 2022
	"Plastic means a material consisting of a polymer to which additives or other substances may have been added, and which can function as a main structural component of final products, with the exception of natural polymers that have not been chemically modified."	EU – Single-Use Plastics Directive (2019/904) and PPWR

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3.1.1 Factsheet: Common EPR Definitions

Term	Example definition wording	Reference
Producer 1/2	"Product producer shall refer to ... brand owner who sells or supplies any commodity under a brand, label or identity using a product it produced, or a material supplied to it by another manufacturer, or supplier"; and [in the absence of a brand owner] "the product manufacturer or importer that supplies its commodities for the use of the general consumer, or distributes the same as a material product of a brand owner".	Philippines – EPR Act (RA 11898)
	'Producer' means any manufacturer, importer or distributor to whom, irrespective of the selling technique used, including by means of distance contracts, one of the following applies: (a) the manufacturer, importer or distributor is established in a Member State and makes available for the first time from within the territory of that Member State and on that same territory transport packaging, service packaging, or primary production packaging, whether as single-use packaging or as reusable packaging; or (b) the manufacturer, importer or distributor is established in a Member State and makes available for the first time from within the territory of that Member State and on that same territory products packaged in packaging other than those referred to in point (a); or (c) the manufacturer, importer or distributor is established in a Member State or in a third country and makes available for the first time on the territory of another Member State, directly to end users, transport packaging, service packaging or primary production packaging, whether as single-use packaging or as reusable packaging; or (d) the manufacturer, importer or distributor is established in a Member State or in a third country and makes available for the first time on the territory of another Member State, directly to end users, products packaged in packaging other than those referred to in point (c); or (e) the manufacturer, importer or distributor is established in a Member State and unpacks packaged products without being an end user, unless another person is the producer as defined in point (a), (b), (c) or (d).	EU – Packaging and Packaging Waste Regulation (2024), Art. 3 (15)

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3.1.1 Factsheet: Common EPR Definitions

Term	Example definition wording	Reference
 **Producer** 2/2	"Producer means a person engaged in manufacturing of plastic packaging and includes a person engaged in manufacture of intermediate material to be used for manufacturing plastic packaging, and also the person engaged in contract manufacturing of products using plastic packaging or through other similar arrangements for brand owners."	India – Plastic Waste Management Rules (2016, amended 2022)
 **Producer Responsibility Organization (PRO)** 1/2	"Producer Responsibility Organization" or "PRO" shall refer to the organization, voluntarily formed or authorized by obligated enterprises under 6 Section 44-H of the Act, as amended by the EPR Act of2022, that shall serve as the viable platform to implement their EPR Program.	Philippines – IRR, Sec. 6
	"Packaging Management Organization" means a manufacturer or a person that is a group of two or more manufacturers, associations or juristic persons established under the law to represent the manufacturer in promoting the collection and sorting of used packaging for reuse or sustainable management and other actions specified in this Act and must be registered with the Pollution Control Department.	Thailand - Draft of the Sustainable Packaging Management Act (2025)
	2. In case the manufacturer or importer chooses the form of organization for recycling according to the provisions of Point a, Clause 2, Article 54 of the Law on Environmental Protection, the manufacturer and importer shall decide on their own the recycling according to the following methods: a. Self-implementation of recycling; b. Hire a recycling unit to carry out the recycling; c. Authorize an intermediary to organize the recycling (hereinafter referred to as the authorized party); d. Combine methods specified at points a, b and c of this clause (…) 5. The **party authorized to organize the recycling** specified in point c, clause 2 of this Article must satisfy the following requirements a. Having legal status and established according to the provisions of law; b. Does not directly recycle and does not have an ownership relationship with any recycler related to the authorized scope; c. Having at least 3 manufacturers and importers agree to authorize recycling organization.	Viet Nam - Decree 08/2022/ND-CP, Art. 79

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Term	Example definition wording	Reference
 **Producer Responsibility Organization (PRO)** 2/2	"Producer Responsibility Organization" means a legal entity that financially or financially and operationally organizes the fulfillment of extended producer responsibility obligations on behalf of several producers.	EU – Packaging and Packaging Waste Regulation (2024), Art. 3 (66)
 **Recovery**	"Resource recovery" shall refer to the collection, extraction, or recovery of recyclable materials from the waste stream for the purpose of recycling, generating energy or producing a product suitable for beneficial use: provided such resource recovery facilities exclude incineration.	Philippines – IRR, Sec. 6
	"Recovery means any operation the principal result of which is waste serving a useful purpose by replacing other materials which would otherwise have been used to fulfill a particular function, or waste being prepared to fulfill that function, in the plant or in the wider economy."	EU – Waste Framework Directive 2008/98/EC and PPWR
 **Recyclability**	High recyclability shall refer to a condition wherein the value for recovery[4] and reprocessing of a product is high, due to its design, composition, content and density, among other things	Philippines - Republic Act No. 118981 (EPR Act of 2022), Sec. 3
	'Recyclability' means the compatibility of packaging with the management and processing of waste by design, based on separate collection, sorting in separate streams, recycling at scale and the use of recycled materials to replace primary raw materials	EU – Packaging and Packaging Waste Regulation (2024), Art. 3 (38)

[4]Note that "recovery" in the Philippine context actually means "collection"

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Term	Example definition wording	Reference
 **Recycling**	“Recycling means any recovery operation by which waste materials are reprocessed into products, materials or substances whether for the original or other purposes.”	EU – Waste Framework Directive (2008/98/EC)
	"Recycling" shall refer to the treating of used or waste materials through a process of making them suitable for beneficial use and for other purposes and includes any process by which solid waste materials are transformed into new products in such a manner that the original products may lose their identity, and which may be used as raw materials for the production of other goods or services: provided that the collection, segregation and re-use of previously used packaging material shall be deemed recycling under the Act.	Philippines – IRR, Sec. 6
	"Recycling" means the process by which the quality of used packaging is processed or improved so that it can be reused as raw materials or new materials for the production of new packaging or other products, conversion into energy, or other uses.	Thailand - Draft of the Sustainable Packaging Management Act (2025)
	“Waste recycling” means a process of using technological solutions and techniques to recover valuable components from waste.	Viet Nam - Decree No. 08/2022/ND-CP
 **Retailer**	“Retailer” means a person who carries on a trade or business of supplying any regulated goods or regulated product to consumers.	Singapore – Resource Sustainability Act 2019
	"Vendor" means a seller and an entrepreneur who sells products or provides services that use packaging.	Thailand - Draft of the Sustainable Packaging Management Act (2025)
	‘Distributor’ means any natural or legal person in the supply chain, other than the manufacturer or the importer, who makes a product available on the market.	EU - Regulation 2019/1020 of the European Parliament and of the Council

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3.1.1 Factsheet: Common EPR Definitions

Term	Example definition wording	Reference
 **Waste and Packaging Waste**	“Used packaging” means packaging that has been used and the owner or occupier does not wish to keep it for use. Used packaging under paragraph 1 may be considered as reusable solid waste under the Law on Public Health, or non-degradable solid waste under the Law on Maintenance of Cleanliness and Public Order.	Thailand - Draft of the Sustainable Packaging Management Act (2025)
	“Waste means any substance or object which the holder discards or intends to, or is required to, discard.”	EU – Waste Framework Directive (2008/98/EC)
	“Packaging waste means any packaging or packaging material that becomes waste.”	EU – Packaging and Packaging Waste Directive 94/62/EC
 **Waste operator**	"Used Packaging Collector" means a person who collects or receives used packaging or a business establishment licensed under the Law on Control of Auction and Antiques Trade, or an establishment that collects damaged, used or wasted objects or items in accordance with the Law on Public Health, or a local government organization for delivery to the manufacturer, the organization responsible for handling the packaging or the place of reuse in accordance with this law.”	Thailand - Draft of the Sustainable Packaging Management Act (2025)
	“Waste treatment owner is an organization or individual that owns or is assigned to manage and operate a waste treatment facility or waste landfill”	Viet Nam – Circular No. 02/2022/ TT-BTNMT, Art. 3 (6)
	Waste management operator is considered as any natural or legal person who carries out waste collection, transport, recovery or disposal operations.	EU – Waste Framework Directive (2008/98/EC)

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3.2 Target Setting

Users
Policymakers, PROs, producers, waste operators

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4.3.2. Setting targets

3.2.1 Guidance Note: System Assessment and Data Gathering (before setting targets stage)

How to use this tool:

Before defining any targets, policymakers are advised to assess the national baseline. Targets should be based on data, infrastructure and policy direction. The following questions and considerations could guide you through the assessment process.

Put-On-Market (POM) Knowledge

- Do producers already report packaging/products placed on the market?
- How reliable is the data? (Is reporting mandatory? Is data verified or audited?)
- What other sources of information on POM can be used? (ex. national statistics, tax authority's database)
- Is data available by material?
- Is data available by product type? (beverage bottles, films, multilayer, etc.)?
- Are imports included?
- Is there data on reusable packaging placed on the market?
- Is there data on recycled content?

Targets established without reliable put-on-market data will have to be verified at a later stage, when EPR Registry is established and operational. Interim revisable targets may be considered in the meantime.

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3.2.1 Guidance Note: System Assessment and data gathering (before setting targets stage)

Current Collection and Treatment Performance

The following aspects should be assessed if possible:
- Do waste operators report their activities (waste collected and treated) and to whom?
- How reliable is the data available on:
  - Collection rate by material
  - Recycling rate by material
  - Informal sector collection estimates
  - Amount landfilled
  - Amount incinerated
  - Amount exported for recycling
  - Contamination rates
  - Sorting efficiency
  - Recycling efficiency (input vs output)

Initial estimates shall be verified at a later stage against stronger evidence as a usual part of the continuous improvement process.

Important distinction:
- Collection rate = waste collected/waste generated
- Recycling rate = material recycled/waste generated, or material recycled/material collected choice is required

Inventory of Available Infrastructure

Targets shall reflect infrastructure capacity.

Assess in terms of number and capacity:
- Collection coverage (urban/rural)
- Sorting facilities
- Recycling plants by material (mechanical/chemical)
- Waste-to-energy plants
- Cement kilns
- Landfills
- Informal sector collection systems
- Waste banks/buy-back centers
- Deposit return systems
- Refill systems
- Reuse logistics and washing facilities
- Transport capacity

Also assess planned infrastructure investments.

In most cases the infrastructure gap can be identified, which needs to be considered while setting EPR targets. (see below)

National Roadmap/ Strategy Alignment

Targets should be aligned with national policies such as:
- National waste management strategy
- Plastic action plan
- Circular economy roadmap
- Climate strategy
- Marine litter strategy
- Recycling industry development plans
- Informal sector integration policies

In some cases, targets and objectives cannot be achieved directly by EPR and additional policy tools are required.

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3.2.2 Guidance Note: Step-by-Step Target-Setting

See also Toolkit Chapter 7.4

Establish Baseline

If possible, determine:

- Put on Market quantities
- Current collection rate
- Current recycling rate
- Current reuse rate
- Infrastructure capacity
- Informal sector contribution
- Any other aspect relating to the chosen objective of the EPR system

Baseline year is essential for proper achievement and progress monitoring.

Identify System Constraints

Constraints may include:

- Lack of collection coverage
- No sorting facilities
- No recycling plants
- High contamination
- Low material value
- Difficult-to-recycle packaging
- Informal sector not integrated
- Limited funding

Targets must reflect these constraints but should also drive improvements.

Define Long-term Targets (10-15 years)

Long-term targets should align with circular economy goals, for example:

- High collection coverage
- High recycling rates
- High recovery rates
- Reuse systems implemented
- Reduction of non-recyclable materials
- Minimum recycled content
- Elimination of certain hazardous substances

Define Phased Targets

Targets should be phased to allow industry adaptation and infrastructure.

Example structure:

- Year 1 - 2: system setup
- Year 3 - 5: expansion
- Year 6 - 10: optimization and circularity targets

Phased targets are highly recommended for ASEAN countries with emerging EPR

Stakeholder Consultation

Stakeholders should include:

- Public sector representatives
- Producers and their associations
- PROs candidates
- Municipalities
- Waste operators (collectors, sorters, recyclers) and their associations
- Informal sector representatives
- NGOs (environmental, social)
- Retailers and their associations
- Consumers and their associations
- Reuse/refill operators

Stakeholder consultation improves target realism and acceptance.

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3.2.3 Checklist: Types of Targets that Could be Considered in the EPR Framework

How to use this Checklist:
Study the types of targets and decide which ones could apply in your country.

Select	Objective	
☐	**Waste reduction targets**	They define the actions taken by producers before a product reaches the consumer, such as redesign, material usage reduction that reduce the plastic packaging placed on the market.
☐	**Reuse targets**	They indicate the amounts of packaging that should be reused;
☐	**Waste collection targets**	They indicate the amount or share of waste that should be collected with the aim of further treatment;
☐	**Recycling targets**	They reflect the amount or share of waste that is sent to any recovery operation by which waste materials are reprocessed into products, materials or substances whether for original purposes or other purposes;
☐	**Recycled content targets**	They define the proportion of recycled material that must be used in the manufacturing of new products or packaging, with the aim of reducing the use of virgin materials and promoting closed-loop systems.
☐	**Energy recovery targets**	They specify the amount or share of the collected waste that is sent to any operation the principal result of which is waste serving a useful purpose by replacing other materials which would otherwise have been used to fulfill a particular function.

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3.2.4 Factsheet: SMART Target Setting

Ensure that all targets are developed using the **SMART** method, i.e., are:

- ☐ **Specific:** Targets should clearly state what is to be achieved, avoiding vague or broad language. Specific targets clearly identify the exact product, material, or process they apply to.
- ☐ **Measurable:** Targets must include quantifiable indicators to allow for accurate tracking and assessment of progress. This enables stakeholders to monitor compliance and evaluate effectiveness over time.
- ☐ **Achievable:** Targets should be realistic and attainable given the available resources, technologies, and infrastructure. Setting overly ambitious goals can lead to objection, non-compliance and undermine the credibility of EPR schemes.
- ☐ **Relevant:** The targets must align with the broader objectives of environmental policy, such as waste reduction, resource efficiency, and circular economy goals. They should focus on areas where significant impact can be made. In addition, they should not be below or just slightly above the current status quo.
- ☐ **Time-bound:** Every target should include a clear deadline or timeframe within which it is to be achieved. This encourages timely action and provides a basis for regulatory review or corrective measures.

	Weak example	Good example
S	“Improve recycling”	“Achieve a X% recycling rate for PET beverage bottles placed on the market by producers in [country] by [year]”.
M	“Increase collection of plastic packaging”, „Improve plastic waste management”	“Collect XY% by weight of plastic packaging put on the market annually”, “Achieve a XY% recycling rate for PET bottles by weight, verified annually”, “Reduce plastic packaging leakage to the environment to below XY% of total generated waste”
A	“Achieve 100% recycling of all plastic packaging within five years.”, “Achieve zero landfilling by 2030”, “Eliminate all plastics within the next 3 years”	“Achieve XY% recycling rate for rigid plastic packaging by [year], supported by expansion of sorting and recycling facilities”, „Reduce landfilling by XY% until [year] vs. [year]”
R	“Recycle 1% of plastic packaging put on the market in the previous compliance year”, “Improve plastic waste recycling globally”	“Recycle XY% of plastic packaging put on the market in the previous compliance year”, “Reduce leakage of plastic packaging into waterways in [country] by XY%”
T	“Increase sachet collection over time”	“Achieve a X% collection rate for sachets by [year]”

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3.2.5 Factsheet: Operational Targets

Collection targets

Collection is the first and most critical step in the EPR reverse value chain. Without adequate collection, no recycling or recovery target can be met. Collection targets can support end-of-life and recovery targets, and should specify:

- The share of post-consumer waste that must be separately collected in a given year (expressed as a percentage of post-consumer waste weight and as tons)
- The geographic scope - national average or differentiated by urban and rural areas
- The collection modalities that count toward the target

Collection modalities and source segregation

Segregation at source is the foundation of an effective collection system - keeping plastic packaging separate from mixed residual waste from the point of discard. Contamination of plastic packaging streams with food waste, liquids or non-target materials significantly reduces the quality of recovered material and increases sorting costs.

The following collection modalities may be recognized under an EPR scheme. They are not mutually exclusive; most functional systems use a combination.

Collection modalities and source segregation

Collection modality	Description and key considerations for EPR design
Separate bins at households	Dedicated bins or bags for plastic packaging at the household level. Requires a collection service and resident behavior change. Effective in dense urban areas. Contamination prevention depends on clear communication about accepted materials.
Bring points/ kerbside	Collection points at fixed locations (street corners, community centers, markets). Complements door-to-door collection and works well in areas where density does not justify a separate bin service.
Waste banks	Often community-managed collection points where residents deposit recyclables, often receiving a small payment. Can be integrated into EPR as a recognized collection channel with formal reporting obligations.
Informal sector door-to-door collection	Informal waste pickers collecting directly from households or businesses. In many ASEAN cities, this channel recovers more plastic packaging than formal systems. EPR schemes should recognize and count this collection

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End-of-life management and recovery options

Once collected, plastic packaging must be managed in a way that maximizes material value. EPR regulations should specify not only a collection target but also a recovery target - and they should be clear about which recovery pathways count and in what order of preference.

Mechanical recycling

Mechanical recycling is a technology that does not interfere with plastics polymer structure and is the preferred end-of-life pathway for most plastic packaging formats, due to its cost and environmental impact. For mechanical recycling to count toward an EPR target, the regulation should require:

- Documentation of the recycling process and the production of secondary raw material (not just sorting or densifying)
- Counting method must be defined: at the gate of the recycling facility, or at point of sale into a secondary market
- Only post-consumer recycled material should count. Post-industrial recycled content (production scrap) must be excluded from rate calculations. Material losses in mechanical recycling typically range from 20–40%, depending on technology and polymer type, and targets should account for this.

Chemical recycling

Chemical recycling (pyrolysis, gasification and depolymerization) breaks down plastic polymers into their building blocks, which can be later used in plastic synthesis processes. It is most relevant for mixed, contaminated, or multilayer plastics that cannot be mechanically recycled. It involves higher costs and CO_2 emissions than mechanical recycling and requires a distinct chain-of-custody methodology for target counting.

Upcycling and downcycling

EPR regulations may differentiate between upcycling (output of equal or higher value, e.g. bottle-to-bottle food-grade PET) and downcycling (output of lower value, e.g. mixed plastic lumber). Applying a higher weighting to upcycled outputs incentivizes quality over quantity.

Energy recovery

Energy recovery (conversion into heat or electricity in a waste-to-energy facility) should be positioned below material recovery in EPR target design. Allowing unlimited energy recovery toward an EPR recycling target creates a perverse incentive to avoid developing more demanding and more valuable recycling pathways for plastics.

In case energy recovery is permitted to count toward EPR targets, best practice is to:

- Apply it only to residual fractions that cannot be mechanically or chemically recycled (i.e., after the sorting process)
- Limit the proportion of the overall target that energy recovery can meet
- Exclude certain polymer types or formats for which recycling alternatives exist

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3.2.6 Factsheet: Packaging Design Requirements



The importance of design specifications in an EPR system

Design plays a major role in determining whether plastic packaging is recyclable. Despite being properly collected and sorted, a packaging format that contains opaque pigments, incompatible polymers or non-removable adhesive labels can either be rejected at the recycling stage or result in a low-quality recycled output. Design requirements in an EPR system define a minimum standard of recyclability that packaging must meet to remain on the market and can create incentives for producers who go beyond the minimum.

Upstream measures
EPR targets focused on collection and end-of-life management only address the downstream end of the plastic packaging lifecycle. Upstream measures (requirements or restrictions applied at the design or material choice stage) can reduce the volume of problematic packaging that enters the system in the first place.

Typically, three categories of upstream measures relate to EPR systems:

Design for recycling and alternative material requirements:
EPR regulations or accompanying legislation may incentivize producers to substitute certain plastic packaging formats with materials that are more recyclable, reusable, or biodegradable. This is distinct from a material ban and may be implemented through eco-modulation of EPR fees.

Material usage reduction: EPR regulations or accompanying legislation may incentivize producers to design products using less material. The incentive is usually achieved by reduced obligation and cost resulting from less material placed on the market.

Substance restrictions and material bans: Certain substances used in plastic packaging - including some pigments, additives, adhesives, and multi-material laminates - interfere with the mechanical recycling process or contaminate recycled material streams. Bans of specific substances or formats (for example, expanded polystyrene food containers, PVC packaging and black carbon pigment in PE packaging) can significantly improve overall packaging recyclability.

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The importance of design specifications in an EPR system

Design-for-recycling: the core criteria

Design-for-recycling (DfR) refers to a set of packaging design choices that make mechanical recycling technically feasible and economically viable. The core criteria are described below:

Design Criterion	Why it matters
Polymer compatibility	Packaging should be made from a single polymer type, or from polymers that are compatible in the recycling process. Mixed-polymer constructions (e.g. PE/PET laminates) cannot be mechanically separated and contaminate both streams.
Color and pigmentation	Mechanical sorting equipment hardly detects dark pigments. Clear, natural, and light-colored packaging is significantly more recyclable than darkly pigmented packaging.
Labels and sleeves	Labels that cannot be removed during the recycling washing stage contaminate the melting process. Shrink-sleeve labels that cover more than a defined share of the bottle surface may disturb mechanical sorting of the underlying polymer.
Closure and cap	Caps and closures should be designed to be made from a polymer compatible with the rest of the packaging. (e.g. HDPE caps on HDPE bottles, PP caps on PP packaging). In cases where they are easily detachable, they frequently end up in the environment.
Additives and coatings	Mechanical recycling cannot be used with certain functional coatings (oxygen barriers, UV protection) or additives (flame retardants, stabilizers). Their use should be limited to applications where no suitable alternative exists.
Format and thickness	Standard mechanical sorting equipment cannot capture very thin films or extremely lightweight formats. In some cases, flexible packaging may need to meet minimum thickness requirements.

Note: No single global standard for ‘recyclable packaging’ exists. Design requirements should be calibrated to the actual collection, sorting, and recycling infrastructure available in the country or sub-region.

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Implementation of DfR: mandatory standards and eco-modulation

Design requirements can be implemented as mandatory standards (compliance threshold), as eco-modulated EPR fee incentives, or as both.

Implementation approach	How it works
Mandatory recyclability standard	Packaging that does not meet a defined recyclability standard is prohibited from being placed on the market or is subject to a higher EPR fee. It sets a threshold below which no producer can fall. However, it does not reward improvement beyond the threshold.
Eco-modulation of EPR fees	EPR fees are adjusted to reflect packaging's recyclability or environmental performance. Packaging that is highly recyclable pays a lower fee than packaging with problematic design features. It creates a continuous incentive to improve, rather than just meeting a threshold. However, it requires a robust recyclability assessment methodology.

Recycled content requirements

Recycled content requirements oblige producers to incorporate a minimum percentage of post-consumer recycled (PCR) plastic into their packaging. It is clearly distinct from recyclability.

Recycled content requirements are important since they create demand for recycled plastic. Without guaranteed demand, the recycling economics are unstable. They provide a stable market signal that justifies investment in sorting and recycling infrastructure.

Key design choices for recycled content requirements:

Define ‘recycled content’:
Post-consumer recycled (PCR) content - material that has been used by a consumer and collected for recycling - is more valuable from a circular economy perspective than Post-industrial recycled content (pre-consumer production scrap). Post-industrial recycled content may be considered safer from a sanitary standpoint because it is contamination-free, but PCR should be the primary target.

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Key design choices for recycled content requirements:

Differentiate by packaging type:
Food-contact packaging has more stringent regulatory constraints on PCR content due to food safety concerns. Targets should reflect what is technically and legally achievable for each application. Applicable technical standards should be abided by and developed if not available.

Phase requirements over time:
As recycled material availability can be limited initially and grow with improving collection systems, recycled content requirements should be increased progressively.

Define the method for recycled content calculation:
For mechanically recycled content, a mass balance approach is straightforward. For chemically recycled content, a more advanced chain-of-custody methodology is required.

Consider the interaction with DfR requirements:
If producers are required to use PCR content and to make packaging recyclable, both requirements must be technically compatible, e.g., PCR resin must not introduce contaminants that disqualify the packaging from recycling.

Recyclability labelling

Labelling requirements sit at the intersection of design and consumer behavior.
Requiring producers to communicate recyclability clearly and accurately on packaging:

- Helps consumers direct packaging to the correct waste stream, improving collection quality
- Creates accountability because producers making recyclability claims must be able to substantiate them against the applicable standard
- Should be aligned with actual local infrastructure: a label claiming ‘recyclable’ where no collection or recycling exists is misleading and undermines system credibility

Labelling schemes should be standardized at the national or regional level to avoid fragmentation and consumer confusion

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3.2.7 Factsheet: Reuse Requirements

Note: Reuse requirements address the distribution and usage stages of the product lifecycle, reducing the volume of waste entering the end-of-life system. They complement EPR (which focuses on end-of-life) and should be considered as an upstream policy instrument alongside it.

Reuse formats and design considerations

The table below sets out the main reuse format relevant to plastic packaging EPR, with key considerations for policymakers setting reuse obligations or targets.

Reuse format	Definition and typical application	Key design considerations
Reusable packaging	Packaging that is designed to be used multiple times for the same purpose before it is discarded or recycled. It includes containers, crates, bags and bottles. **Ownership models:** • Producer retains ownership and recovers packaging after use (typical in B2B) • Consumer owns and reuses (retail/B2C models)	**Scope definition** • Clearly define which packaging formats and product categories are covered (not all formats are technically feasible for reuse). • Entities obligated for reuse may differ from classical EPR obligated producers (reuse can affect the entire business model, not just a single product and not all packaging can be reused). **Logistics and infrastructure** • Reuse requires collection, cleaning and redistribution, which is often more complex than recycling logistics. • Returned packaging must meet food-contact and product safety standards where applicable. **Consumer and retail readiness** • Reuse systems depend on consumer participation. DRS, refill points, and behavior change support are enabling conditions. • Retail sector obligations may need to be set alongside producer obligations for DRS and in-store refill systems.
Refill systems	A system in which consumers bring their container (or use a provided one) to a refill station at a retail location and fill it with a liquid or loose product. No new packaging unit is sold with the product.	

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Setting reuse targets

When reuse requirements move beyond general obligations to quantified targets, the following design choices must be addressed:

Define the metric:
Targets are typically expressed as a percentage of packaging formats placed on market that must be reusable, or as a percentage of units sold via reuse/refill channels for a defined year.

Phase targets over time:
Early targets should reflect infrastructure availability and consumer readiness, with step-ups tied to review milestones.

Align with DRS design where applicable:
DRS is one of the most effective mechanisms for operationalizing reuse targets for beverage packaging.

Monitoring and reporting:
Producers and retailers subject to reuse obligations should report annually on reusable packaging placed on market and return rates achieved.

Interaction with EPR

Reuse requirements and EPR fee structures can be mutually reinforcing. Eco-modulation of EPR fees (charging lower fees for reusable formats) creates a financial incentive that complements mandatory reuse targets. Where reuse is not yet feasible for a given format, EPR fees should reflect the full end-of-life cost rather than subsidizing single-use.

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3.3 Operating Models

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3.3.1 Factsheet: Advantages and Disadvantages of Individual Compliance Systems



Advantages

For producers:
- Can decide themselves how to manage their waste to fulfill the regulatory target
- Fuller control over their EPR cost
- May be preferred by MNCs whose corporate targets may exceed regulatory targets in countries only just implementing EPR

For regulators:
- Buy-in from producers seeking flexibility



Disadvantages

For producers:
- Not their core business
- May lack knowledge to develop and manage reverse chains
- May lack bargaining power to negotiate with waste operators

For regulators:
- An increased number of interfaces for the governing body (high complexity and significant administrative burden)
- Higher risk of free-riding

Other risks:
- Low efficiency (uncoordinated waste management practices, lack of economies of scale)
- Cherry-picking by producers
- Limited influence on planned infrastructure development
- More interfaces for local authorities and retailers

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3.3.2 Factsheet: Advantages and Disadvantages of Collective Compliance Systems



Advantages

For producers:
- Can focus on their core business and not engage in waste management activities
- Lower EPR costs due to economies of scale
- Logistics and other waste management operations simplified for produces (essentially hands-off)
- The risk is shared between member producers
- If Collectives/PROs allowed to register and report on behalf of producers, less administrative burden for producers

For regulators:
- Less complexity for enforcement
- Possibility to outsource to collective systems part of the enforcement (e.g. audits conducting))
- Lower risk of free-riding (PROs may actively search for free-riders)

Other benefits:
- Waste managed by professional players (PROs) - collected and treated properly
- Funds are ring-fenced for waste management activities
- Collective education and awareness activities are likely to have a higher impact through better coordination



Disadvantages

For producers:
- Compliance cost can be high and inflationary in case of monopolistic PRO models

For regulators:
- Lower leverage in case of monopolistic PRO models (license suspension may not be an option)
- Coordination must be part of the framework design in case of competing PROs

Other risks:
- Excessive bargaining power could impact waste operators

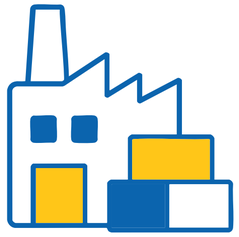
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3.3.3 Guidance Note: Selection Between Individual and Collective Producer Responsibility

When to consider individual or collective producer responsibility?



Individual Producer Responsibility (IPR)

for organizing and financing of waste system

Yes/No	Question	Yes/No
Yes	Is/are there a producer(s) willing to take responsibility alone?	No
Yes	Is/are there a producer(s) capable of managing own systems?	No
No	Are there producers unable to deal with waste management alone (for example, in terms of scale)?	Yes
No	Is free-riding a significant risk?	Yes
No	Eco-modulation considered	Yes
Yes	Waste streams can be physically separated by product type or producer	No
No	Waste is collected through municipal or shared collection system	Yes
Yes	Waste arises mainly from business-to-business (B2B) activities	No
Yes	Producers have physical control over distribution or reverse logistics	No
Yes	The number of producers is manageable	No
Yes	Monitoring and enforcement systems are strong enough	No



Collective Producer Responsibility (CPR)

for organizing and financing of waste system

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3.3.4 Factsheet: Advantages and Disadvantages of Fund-Based Compliance Models



Advantages

For producers:

- Simple compliance for producers (“pay and forget”)

For regulators:

- Good control over financial flows
- Predictable revenue streams
- Possibility to finance infrastructural development

Other benefits:

- May contribute to collecting waste in logistically more difficult and less densely populated areas



Disadvantages

For producers:

- Limited influence over system efficiency, costs and design, in particular
- Risk that contributions are not properly ring-fenced but feed government consolidated funds

For regulators:

- Strong governance and disbursement rules required
- Increased responsibilities

Other risks:

- Funds may have little knowledge and capacity to manage producer waste
- Funds may lack the agility required to adjust disbursement to actual needs over time

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3.3.5 Guidance Note: Selection of a Fund-Based Compliance Model

When to consider a Payment-to-Fund model?

Payment-to-fund model should be considered when:
○ Waste management system is underdeveloped and requires major public investment
○ Government wants to control funds allocation and is able to do so efficiently
○ There is no capacity yet to establish or regulate PROs
○ There are many small producers and a large informal market
○ Policymakers seek a transitional system before full EPR
○ Municipal waste management is highly centralized
○ Policymakers want to finance activities beyond recycling (ex. river cleanups, marine litter programs, dumpsite remediation)

In general, this model may be considered if government needs to build, finance, or coordinate the waste management system centrally and when producer-led operational responsibility is not yet feasible. Since producers do not take responsibility for meeting targets or organizing the system, many experts argue that payment-to-fund alone is not full EPR.

A fund may also be considered as ancillary mechanism to individual or collective systems, for instance receiving funds from collected penalties, or for coordinated activities.

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3.3.6 Factsheet: Advantages and Disadvantages of Hybrid Compliance Models



Advantages

For producers:
- The highest level of flexibility

For regulators:
- Buy-in from producers

Other benefits:
- Competition for producers' business may stimulate innovation



Disadvantages

For regulators:
- Very complex oversight structures required to ensure consistent performance and limit free-riding

Other risks:
- Opportunistic behavior: producers are likely to choose the most cost-effective and carefree solution, which is not necessarily the best option for the environment nor the one most likely to achieve the EPR goals
- If not carefully designed and hierarchized, these models may fragment material flows or dilute accountability

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3.3.7 Checklist: EPR Compliance Models and Risk Mitigation Actions

Risk mitigation - compliance models

Scenario	Mitigation actions
Individual compliance	☐ Requirements not less ambitious than for collective schemes ☐ Sufficient resourcing of overseeing enforcement bodies ☐ Coordination and alignment of education & awareness and common technical studies ☐ 3rd party audits
Collective compliance	☐ Alignment on non-discrimination of members (between PROs) ☐ Fair treatment of PRO members regardless their role (non-discrimination) ☐ Avoid cross-subsidizing between producers or streams ☐ Balancing mechanisms of collection achievements between PROs and collectives ☐ Coordinated access to waste ☐ Coordination and alignment of education & awareness and common technical studies
Fund-based compliance	☐ Identify the producer billing mechanism and magnitude ☐ Factoring in incentive for eco-modulation ☐ Ringfencing the funds collected ☐ Transparent and equitable disbursement mechanism ☐ Flexible adjustment of disbursement to actual current needs ☐ Minimize management fees and money assignment to non-operating purposes
Hybrid	☐ Free-riders' detection mechanism ☐ Sufficient resourcing of overseeing enforcement bodies ☐ Analyze and mitigate any detrimental opportunistic behaviors arising from not fully aligned systems in terms of obligations (one system should not have easier compliance mechanisms and be cheaper at the same time) ☐ Define integration or coordination of the various compliance models

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3.3.8 Guidance Note: Selection of a Hybrid Compliance Model

When to consider a Hybrid Compliance Model

Policymakers should consider hybrid compliance when:
○ Producers request high flexibility
○ There are different types of packaging requiring different systems
○ There are some producers large enough to manage their own systems
○ Competition between compliance schemes is desirable (e.g., to reduce costs or boost innovation)
○ Waste management system is relatively well developed (including monitoring, data management systems and auditing)
○ There are established recycling markets and private waste operators
○ There is high oversight capacity on regulator's side

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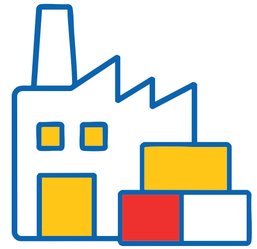
3.3.9 Guidance Note: Selection between PRO Financial and Operational Model

How to decide on PRO Sole Financial or Operational model?



Sole Financial model = producers pay municipalities

Yes/No	Question	Yes/No
Yes	Municipalities are already legally responsible for waste collection	No
Yes	Collection systems already exist and have high coverage	No
Yes	Is municipal collection system efficient and well-performing?	No
Yes	Are local governments willing to keep responsibility for waste operation?	No
No	Waste collection system is weak	Yes
No	Municipalities lack capacity	Yes
No	Producers are willing to organize system	Yes
No	There is a strong private waste management sector	Yes
Yes	Government wants strong public control over waste management	No
Yes	There are strong public institutions and administrative capacity	No
No	There is a large informal sector (more flexibility in contracting is needed)	Yes
No	Rapid improvement desired	Yes



Operational model = producers organize the waste system themselves

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3.3.10 Guidance Note: Selection of Deposit Return Systems

When to consider Deposit Return Systems:

Deposit Return Systems (DRS) are not an alternative for “classic“ EPR and cannot replace packaging EPR. In many countries, EPR and DRS operate together although for different packaging streams. In simple terms, classic EPR is needed for the majority of packaging types. DRS is only suitable for specific packaging streams (mainly beverage containers).

Policymakers may consider DRS implementation if:
The packaging collected is beverage containers
High collection rates are required (e.g., 80–90%+)
There is a market for high-quality recyclate
Litter reduction is a major policy objective
Retail infrastructure is well developed

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3.4 Roles & Responsibilities

Users	Handbook Reference
All	4.3.4 Roles and Responsibilities

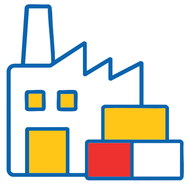
3.4.1 Factsheet: Roles and Responsibilities in EPR System

Under EPR, all actors have to play a role and responsibility is not limited to producers.

While the respective roles & responsibilities of each actor may vary depending on the jurisdiction, there is a need for a clear delineation of responsibilities to avoid accountability gaps, prevent cross-subsidization and ensure that compliance obligations can be effectively fulfillled, monitored and enforced.

Common Roles & Responsibilities at a glance

1/3

Actor	Core Obligations	Relationship with PRO	Relationship with Regulator
 Producers	• Register with producer registry • Declare plastic packaging placed on market (POM) by material type and weight • Establish or join an EPR scheme • Pay compliance-related costs • Engage in upstream activities (waste reduction, etc.) • Meet mandatory deadlines	• Register with licensed PRO • Submit periodic POM declarations to PRO • Fund PRO operations via EPR fees (POM-based or collected/ treated model)	Subject, to compliance verification by regulator, PROs, 3rd Party Auditors. Liable for penalties if registration, declarations or payment lapse

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Common Roles & Responsibilities at a glance

Actor	Core Obligations	Relationship with PRO	Relationship with Regulator
 **EPR schemes (individual, collective, PROs)**	• Organise and finance collection, sorting and treatment of covered plastic packaging. Achieve mandatory collection and recycling targets • Report performance to regulator/registry • Engage in informal sector onboarding • Conduct awareness raising activities	Participate in coordination of activities, balancing and clearing as regulated	• Licensed/approved by regulator • Primary reporting entity for EPR scheme performance
 **Waste Operators**	• Collect, sort, and treat plastic waste under PRO contract • Meet quality and traceability standards Report tonnages and treatment outcomes to EPR schemes/registry • Engage in informal sector onboarding	• Contracted service providers to PRO • Remunerated per ton collected/ treated. Subject to PRO audit and performance conditions	• May require separate operating licenses • May have to report to regulator
 **Municipalities/LGUs**	• Coordinate household collection infrastructure. Facilitate PRO access to collection points • Engage in informal sector onboarding	• Partnership agreement with PRO • Hand over operations to PRO or receive financial support from PRO. Share collection data with PRO • Participate in PRO awareness raising activities	Retain public service responsibility for solid waste

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Common Roles & Responsibilities at a glance

Actor	Core Obligations	Relationship with PRO	Relationship with Regulator
 Retailers	Where mandated: provide in-store take-back points. Report packaging sold under own brands (if acting as producer). Support PRO-led consumer communication	Separate retailer agreement with PRO (distinct from any producer role). Facilitate point-of-sale collection logistics, including via consolidation	• May be treated as producers for own-brand packaging • Retailer and producer roles assessed independently by authority
 Regulator	Set and update EPR regulations and targets. License EPR schemes. Monitor compliance by producers, waste operators and EPR schemes. Enforce penalties for non-compliance	Grants PRO license. Reviews annual performance reports. May approve EPR fee models and fee modulation criteria	N/A
 Consumers	• Separate plastic packaging at source where collection infrastructure or dedicated service exist • Comply with applicable sorting instructions	May be engaged by PRO via communication campaigns, collection events, etc.	May be engaged by regulator via communication campaigns

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3.4.2 Checklist: Defining Roles and Responsibilities in EPR System

Define the roles & responsibilities of your EPR stakeholders

	Registration EPR registry	Declaration of POM	Take-back obligation	Reporting take back	Education& awareness	R&D	Follow waste disposal guidance
Producers	☐	☐	☐	☐	☐	☐	☐
PROs	☐	☐	☐	☐	☐	☐	☐
Municipalities/local authorities	☐	N/A	☐	☐	☐	☐	☐
Waste Operators	☐	N/A	☐	☐	☐	☐	☐
Informal Sector	N/A	N/A	☐	☐	☐	☐	☐
Auditors	☐	☐	N/A	N/A	N/A	N/A	N/A
Consumers	N/A	N/A	N/A	N/A	N/A	N/A	☐
National government	N/A	N/A	N/A	☐	☐	☐	☐

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3.5 EPR Governance

Users: Policymakers

Handbook Reference: 4.3.5 EPR Governance

3.5.1 Factsheet: Governance

GOVERNANCE

Producers	PROs	Waste Operators
• Register before placing products on the market • Report periodically accurate quantities and material types placed on the market Pay EPR fees according to approved fees according to published by their PROS • Finance end-of-life operations proportionally to their contribution to waste generation • Implement information and upstream measures as requiredby regulations	• Independent board with no conflicts of interest • Transparent fee structures, adequate funding, no excessive reserves • Non-discriminatory service coverage across municipalities and regions • Equitable treatment of all producers, including SMEs and online sellers • Sourcing only from operators meeting minimum standards • Fair contracting of operators and inclusion of the informal sector • Compliance with approved operational plans and performance targets • Fair competition between PROs from licensing through operations • Weak governance can lead to monopolies, cartelisation, higher costs, and opaque cross-subsidies	• Collect and sort waste following approved specifications • Weigh and report activity through reliable systems • Only verified, real tonnage is counted toward national targets (collection or treatment) • No illegal exports, open dumping,or under-the-table practices distort performance data • Staff is employed according to labour law requirements and works in a safe working environment

Certification schemes & third-party audits may be necessary to strengthen credibility

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3.5.2 Decision sheet: Clearing House/Coordination Body

Follow each point to decide the final form of the clearing house

0 Is there a need for a coordination body/ clearing house?

- ☐ Yes, if the access to waste shall be coordinated
- ☐ Yes, if achievements shall be balanced
- ☐ Yes, general coordination of EPR system

1 Organization of the clearing house

- Contractual agreement
- Independent dedicated legal entity (SPV)
- Legal entity controlled by PROs

- Who shall own the legal entity?
- How shall the legal entity be governed?
- Shall the legal entity be independent?

2 Functions of the clearing house

- ☐ Access to waste coordination
- ☐ Balancing of achievements
- ☐ Other coordination (R&D, E&A, technical studies)
- ☐ Combination

- Deciding access to waste (geography)
- Balancing of achievements
- Coordinating common activities (education, studies)

3 Financing of the clearing house

- By obligated parties
- Public funding
- PROs

What are the costs of setting up and running the clearing house?

Final form of the clearing house

Note

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3.6 EPR Register

Users	Handbook Reference
Policymakers	4.3.6 EPR Register

3.6.1 Checklist: Registry Assessment Sheet for Regulators

Current state assessment for regulators

- [ ] Which data is available?
- [ ] In which format is data available?
- [ ] How is data currently captured?
- [ ] How reliable and complete is the data available?
- [ ] Is it possible to aggregate received reports by different actors?

Current state assessment of waste operators reporting

- [ ] Is there a licensing process?
- [ ] Who is the authority in charge of licensing?
- [ ] What data is mandatory to report to the authorities (total capacities, take-back, treatment)?
- [ ] Is there a standard format or channel to report the data?
- [ ] Is reporting done manually or is the process digitized?
- [ ] What happens if data is not reported?

Current state assessment of producer reporting

- [ ] Do they report data to authorities?
- [ ] What data do they report (POM, total capacities)?
- [ ] How often must they do so?
- [ ] Is there a standard format or channel to report POM and take-back data?
- [ ] What happens if data is not reported?

Desired achievements upon EPR implementation

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3.6.2 Decision sheet: Registry Governance and Ownership

The choice of the registry owner is crucial and must take into consideration data confidentiality and how to protect it best in a local context. Registry ownership may also affect data neutrality, operational capacity and long-term sustainability. Four principal ownership models are considered below.

Registry Owner	Description	Pros	Cons	Decision
 PRO	• One of the licensed PROs hosts and manages the registry. • Producer registration, POM declarations, and compliance records are held within the PRO's information management infrastructure.	• Natural fit: PRO already manages or will need to manage producer data for the purpose of charging EPR fees. • Operational efficiency: no separate entity required. • Faster to deploy if PRO infrastructure is already in place.	• Unworkable in a multi-PRO market: no single PRO can legitimately hold data on all producers across competing schemes. • No central data repository is available for regulatory oversight in a multiple EPR framework environment (plastics, e-waste, etc.). • Risk of conflict of interest: registry owner has commercial interest in producer membership.	☐
 Public Agency	• A government body - typically the environmental regulator or equivalent - owns and operates the registry. • Producers register directly with the state authority registry system, which makes the data available to producers, PROs and public on a need-to-know basis.	• Regulator has direct, unmediated access to producer and compliance data. • Perceived as neutral: no commercial interest in registry outcomes. • Simplifies multi-PRO environments: one central register, multiple PROs drawing from it. • Supports multi-stream registry capability.	• Private sector frequently resistant: concerns over confidential data leakage and government overreach. • Public agencies may lack technical capacity or agility to maintain a dynamic digital registry. • Procurement and IT governance cycles can slow implementation significantly.	☐

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3.6.2 Decision sheet: Registry Governance and Ownership

Registry Owner	Description	Pros	Cons	Decision
 **Third-Party Service Provider**	A private technology or consulting firm is contracted to build and operate the registry platform. The provider manages the technical infrastructure; ownership and access rights are defined by contract.	• Access to specialist technical expertise and proven platforms. • Faster deployment than building in-house public capacity. • Flexibility to scale features and users over time.	• Dependency risk: provider may accumulate high bargaining power as the scheme matures, making replacement costly. • Continuity risk: if the provider ceases operations or exits the market, registry sustainability is threatened. • Data ownership and portability must be explicitly contractually protected. • Ongoing cost exposure with limited competitive tension over time.	☐
 **Bespoke Body (SPV)**	A Special Purpose Vehicle - a dedicated legal entity created specifically to own and govern the registry - is established by stakeholders (government, industry, PROs). Governance is shared under a defined mandate.	• Purpose-built governance: mandate is narrowly defined around registry operation, avoiding conflicts with other institutional roles. • Multi-stakeholder ownership possible, balancing public and private interests. • Can be structured to be financially self-sustaining via registry fees.	• Requires a rigorous cost/benefit assessment: setup and operating costs of a new entity must be weighed against the marginal benefit over hosting the function within an existing organization. • Longer lead time to establish legal entity, governance structure and staffing.	☐

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3.6.3 Checklist : Registry Features and Safeguards

1 Registry features:

- [ ] Digital platform (avoids hardcopies, avoids spreadsheets)
- [ ] Standard nomenclature and units
- [ ] User guides or instruction/contextual help
- [ ] Agreement on language(s)
- [ ] Hosting and server providers
- [ ] Data retention policy
- [ ] Publicly accessible data and confidential data
- [ ] Data granularity
- [ ] Data reporting campaigns
- [ ] Roles (producer, registry personnel, admins, waste operators)



2 Registry safeguards:

- [ ] Confidentiality safeguards
  - [ ] GDPR or equivalent
  - [ ] Cyber security
- [ ] Users, roles, and access rights per user type
- [ ] Backups and safeguards
- [ ] Maintenance and minimum system availability
- [ ] Aggregated reports and dashboards
- [ ] Disaster recovery requirements
- [ ] Scalability
- [ ] Data-verification stages and fraud/plausibility tools and mechanisms



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3.6.4 Guidance Note: Registry Process Overview



Producer registry

Process Overview:

1. Producer Registration – Producers register their legal entity in the system.
2. Declaration – Producer data containing the following information is reported:
   - ☐ Put-On-Market (POM) amounts based of their products in scope
   - ☐ Target achievements
   - ☐ Annual roadmap



Waste operator registry

Process Overview:

1. Registration – Waste managers register their legal entity in the system.
2. Declaration – Waste managers declare
   - ☐ The amounts collected and treated on a periodical basis (directly to the registry or via the PRO)

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3.6.5 Guidance Note: Steps to Set Up an EPR Registry

Create Registration platform → **Create a Declaration platform**

Items producer needs to provide for registration

- [ ] Name of the producer
- [ ] Company Registration Number (CRN)
- [ ] Tax Registration Number (TRN)
- [ ] Address
- [ ] Country (for distant sellers)
- [ ] Contact person and contact details (position, phone, email)
- [ ] Type of producer: Manufacturer, importer, retailer selling under own brand (for instance, subject to final regulations), distant seller
- [ ] Market Segment
- [ ] Possibly, brands placed on the market by each producer

Items waste operator needs to provide for registration

- [ ] Name of the operator
- [ ] Company Registration Number (CRN)
- [ ] Tax Registration Number (TRN)
- [ ] Address
- [ ] Contact person and contact details (position, phone, email)
- [ ] Type (s) of process(es)/activity (ies) performed
  - [ ] Collection
  - [ ] Aggregation
  - [ ] Recycling
  - [ ] Other

Define the granularity of data to be reported

The following material segmentation could be considered, both from a “Put-On-Market” and “collection and treatment” points of view:

- [ ] PET
- [ ] HDPE
- [ ] Other rigid plastics
- [ ] Flexible plastics (i.e., bags, sachets, foils, sheets...)
- [ ] Multi-material packaging (i.e., beverage cartons, metal plastic laminates...)

For POM declaration:

- [ ] Only weights or number of units, too?

*Examples of declaration mask the following slide

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3.6.6 Template: Registry – Producer Declaration

The producer shall report the weight of products or materials placed on the market once per year to the PRO. If they are adhering to multiple PROs, their POM information will be divided to the different PROs. The following granularity of data is an example for packaging waste.

Reporting period

2025
2026

Declaration of weight

	Weight of material types (in kg)												
	Plastics					Metals			Paper & Cardboard		Glass	Wood	Other
	PET for bottles	HDPE for bottles	Other rigid plastics (including PET trays and other HDPE)	Flexible plastics mono-materials	Flexible plastics multi-materials	Ferrous	Aluminium	Other non-ferrous	Paper & cardboard				
PRO 1													
PRO 2													
PRO 3													
PRO 4													

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3.6.7 Template: Registry – Declaration by Waste Operators

The waste operators must report their quantities as well.

Reporting period

2025
2026

Process

Collection	Conversion to energy
Recycling	Conversion to fuel
Preparation for reuse	Disposal

Declaration of weight

	Weight of material types (in kg)												
	Plastics					Metals			Paper & Cardboard		Glass	Wood	Other
	PET for bottles	HDPE for bottles	Other rigid plastics (including PET trays and other HDPE)	Flexible plastics mono-materials	Flexible plastics multi-materials	Ferrous	Aluminium	Other non-ferrous	Paper & cardboard				
PRO 1													
PRO 2													
PRO 3													
PRO 4													

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3.6.8 Guidance Note: Registry Financing

The registry requires investment to develop the systems and running costs to host, maintain and manage it. Amortization, HR and overheads must be financed on a continuous basis. Several options are available as indicated in the figure below.



Financing of registry

By obligated parties: producers pay for registration, possibly for reporting

Public funding: government budget, enforcement agency's own budget

PROs: PROs bear the costs and recoup it from the producers via the EPR fees

How to finance the setup of the digital infrastructure?

How to maintain and finance the setup of the digital infrastructure?

Will obligated parties contribute financially to the operation of the registry?

What are the costs of setting up and running the registry?



Options for financing the registry:

- Registration fees
- Annual fee
- Reporting fees
- Non-compliance fees
- Audit fees
- A combination of the above



Options for cost allocation to producers, by:

- ☐ Turnover
- ☐ Units
- ☐ Weight
- ☐ Other

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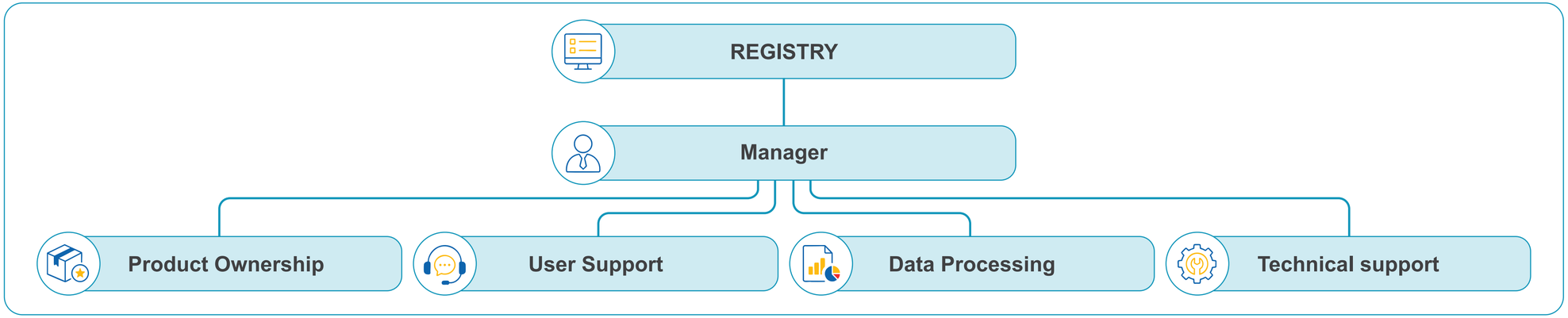
Guidance Note: EPR Registry Organizational Structure and HR Requirements

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3.6.9 Guidance Note: EPR Registry Organizational Structure and HR Requirements

Management structure of EPR registry



The team in charge of running the registry would include the following functions:
Management: in charge of the overall registry operation, including process and people management, information system and budget
Product ownership: responsible during the project phase and beyond for the registry product features and development prioritization
User support: to accompany producers, waste managers and other users through the various steps of registration and reporting
Data processing: to generate reports and analysis based on the registration and reporting data collected. Beside providing quantitative information on products entering the market and waste being handled, this function may also calculate producer obligations (via market share calculation) and measure achievement of targets.
Technical support: an advance support function both for the system itself and for related technical issues (data formats, application programming interfaces, security, etc.). This function may be shared with or outsourced to the IT service provider that supplied the system or that maintains it.

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3.7 Producer Responsibility Organization (PRO)

Users	Handbook Reference
Policymakers, PROs, Industry	4.3.7 Producer Responsibility Organization (PRO)

3.7.1 Factsheet: Responsibilities of a PRO

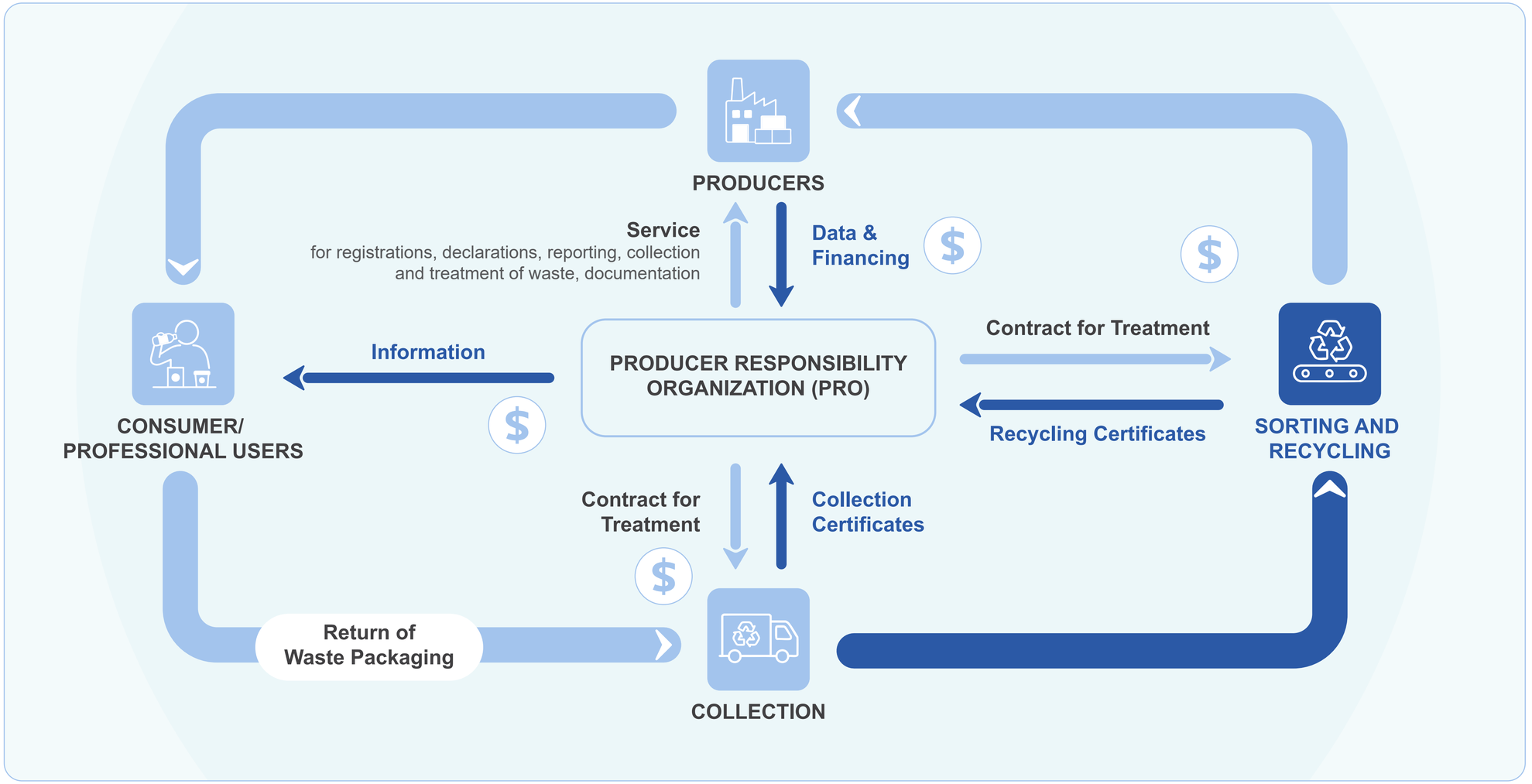
Main responsibility of the PRO is to achieve the targets (collection, recycling) that can be achieved collectively

Tasks that need to be done by a PRO (typically, can vary according to operating model):	
☐ Contracting obligated producers,	☐ Informing and educating,
☐ Collection and administration of all funds from all producers/importers,	☐ Monitoring all services that have been awarded to service providers,
☐ Organising reverse chain, tendering and contracting of all or specific tasks,	☐ Documentation and verification to the supervisory authorities.
☐ Documentation of collection, sorting and recycling of packaging waste,	

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Basic Flow Collective Producer Responsibility

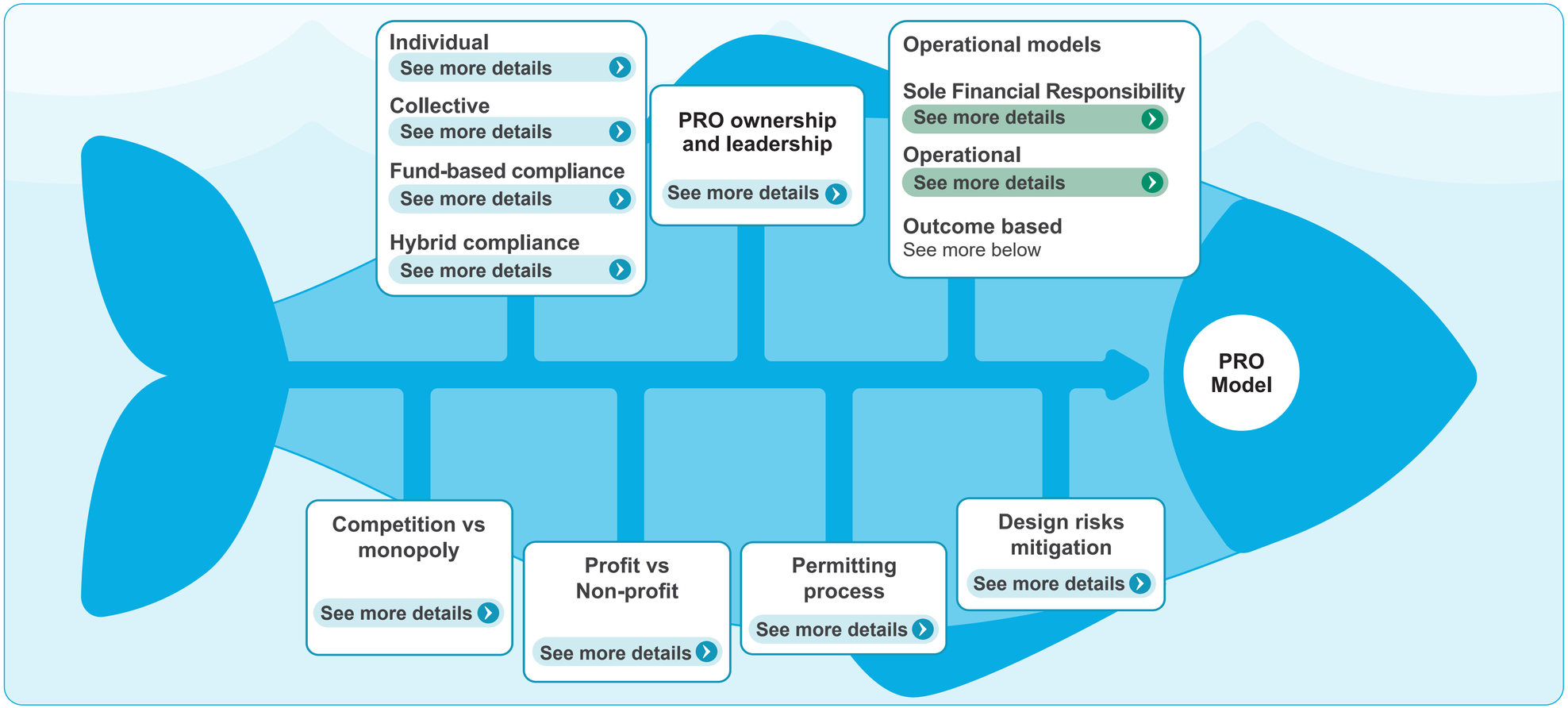


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3.7.2 Decision tree: Selecting PRO Model

Decision tree for PRO



In the outcome-based models, PROs purchase evidence of waste treatment by acquiring waste treatment certificates, waste diversion certificates, evidence notes, or similar from accredited operators, without managing the physical chain directly.

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3.7.3 Factsheet: Competition vs. Monopoly

Feature	Monopoly	Oligopoly	Open Market Competitiveness
Number of Providers	One	Few (usually 2-10)	Many
Barriers to Entry	High	Moderate to High	Low to Moderate
Pricing Power	High (sets prices)	Moderate to High (some price control)	Low (market-driven prices)
Service Quality	Can be lower due to lack of competition	Can vary, often higher due to limited competition	Generally higher due to intense competition
Innovation and Improvement	Low (less incentive)	Moderate (some incentive)	High (strong incentive to innovate)
Regulatory Oversight	High (to prevent abuse of power)	Moderate to High (to ensure fair competition)	High (market dynamics may lead to price-driven competition rather than quality)
Customer Choice	None	Limited	Extensive
Responsiveness to Demand	Low	Moderate	High
Efficiency	Can be lower due to lack of competition	Moderate to high	Generally higher due to competition
Environmental Compliance Focus	Dependent on regulatory requirements and PRO's commitment	Dependent on regulatory requirements and competitive dynamics	Dependent on regulatory requirements enforcement
Risk of Collusion	None	Moderate (few players can easily collude)	Low (many players reduce the likelihood of collusion)

Each system has its advantages and drawbacks. Public opinions across industries are in favour of competitive markets while in civil services and environmental management, a high level of government monitoring and controlling are advised, irrespective of the market competitiveness approach.

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3.7.4 Factsheet: PRO Leadership

Criteria	Industry-led PRO	State-led PRO	Pure market players
Financial aspects	EPR fees typically reflect the costs incurred by the PRO in carrying out its duties. Fees are ringfenced for EPR activities. Funding must be transparent, traceable and subject to auditing	Systems must be in place to ensure that collected funds are used for EPR purposes and do not land in general public budgets. Strong financial controls and transparency are required to avoid treatment as general taxation.	Fees are typically service-based and contractually defined with producers. Professional PROs operate on a cost-recovery or profit basis, depending on the model. High transparency and financial reporting are needed to build trust with clients and regulators.
Organisational aspects & practicalities	Significant effort required in relation to interactions with private stakeholders and public authorities. Companies have to take the lead in establishing the PRO. Direct competitors might not be willing to cooperate and/or be part of the same PRO.	Requires significant capacity, expertise and resources within the public administration in order to set up the required structures and collect funds from obligated companies. The government is responsible for system design, fund management, and operational performance and oversight.	Specialized compliance service companies are typically more agile and operationally efficient, leveraging technical expertise and economies of scale. Alignment with public policy objectives depends heavily on regulatory oversight and contract design.
Producer free-riding	It is in the PRO's interest to pursue free-riders to ensure fair cost distribution among obligated producers.	Enforcement depends on government capacity. Systems may be vulnerable to weak enforcement or corruption in some contexts.	Professional PROs have limited inherent incentive to pursue non-clients unless mandated. Effective enforcement must be driven by regulators, not the PRO itself.
Monitoring of PRO performance	Typically monitored by public authorities or independent auditors. Governance structures may include checks to avoid conflicts of interest.	Difficult. No independent, external party to supervise and enforce any sanctions.	Performance is monitored through contractual obligations, regulatory reporting, and audits. Clear KPIs and enforcement mechanisms are essential. Competition between PROs (where allowed) can drive performance but may also create risks of "race to the bottom" if standards are weak.

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3.7.5 Factsheet: Profit vs. Non-profit PROs

- **Both** systems are **used globally**
- **No significant evidence favoring one** for higher efficiency or environmental performance

Aspect	Non-profit PRO	For-profit PRO
Ownership	Owned by obligated producers and industry representatives.	Subject to direct competition between several PROs in some countries such as Germany and Austria.
Fee Structure	Fees reflect actual costs of implementing and operating the system; regularly reviewed based on spending and revenues.	Competition affects pricing; potential for profits or losses.
Incentives	May reduce cost-cutting incentives.	Encourages innovation.

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3.7.6 Guidance Note: Risk Mitigation Depending on the PRO Model

Scenario	Mitigation actions	
Monopoly	National compensation schemes for municipalities	3rd party auditing
	PRO permitting process	In case of for-profit monopoly: selection via public tender, upfront determination of pricing by contract
	Binding EPR targets	Include in the regulation to open for competition later if monopoly fails or system employed
	Minimal technical standards (e.g., for recycling)	PRO bound to a public tendering process
	Financial guarantees/ minimum reserves and maximum reserves	Avoid vertical integration (infrastructure ownership
	Fines for non-compliance	
Competition	National compensation schemes for municipalities	PRO swapping rules
	PRO permitting process	Financial guarantees/ minimum reserves
	PROs bound to quasi-tender process in case of big players	Fines for non-compliance
	Binding EPR targets	Harmonized EPR fee structure
	Minimal technical standards (e.g., for recycling)	Harmonized eco-modulation
	Coordination body (fair access to waste, achievement balancing, coordination of joint actions)	3rd party auditing

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Scenario	Mitigation actions
For profit	Limit the distribution of profit in case the targets are not met
	In case of a monopoly, negotiate and agree upfront costs for a period of years
	Clarify the financing reserves for risks, liability, and future waste obligations
Not for profit	Cap financial reserves to avoid hoarding
	Specify how the money can and cannot be spent

Scenario	Mitigation actions
Operating model - operation	Transparent selection process of waste operators
	Formal contracting of waste operators
	Supply-chain audits from A-Z
Operating model - outcome based	Supply-chain audits from A-Z (PRO-driven or third-party driven)
	Monitor how the fund channeled via certificates benefit the entire chain, including the informal sector
	Decide on certificate tradability (whether a certificate can be emitted in the name of a beneficiary or if certificates can be sold/traded in case of having too many)
	Consider how to finance educational campaign
	Define funding model for incentivizing design for environment
Operating model - financial based	Supply-chain audits from A-Z
	Minimum remuneration condition for the informal sector
	Upfront national agreement on costs and subsidies calculation (methodology, fees, terms and revision)

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3.7.7 Checklist: PRO Permitting

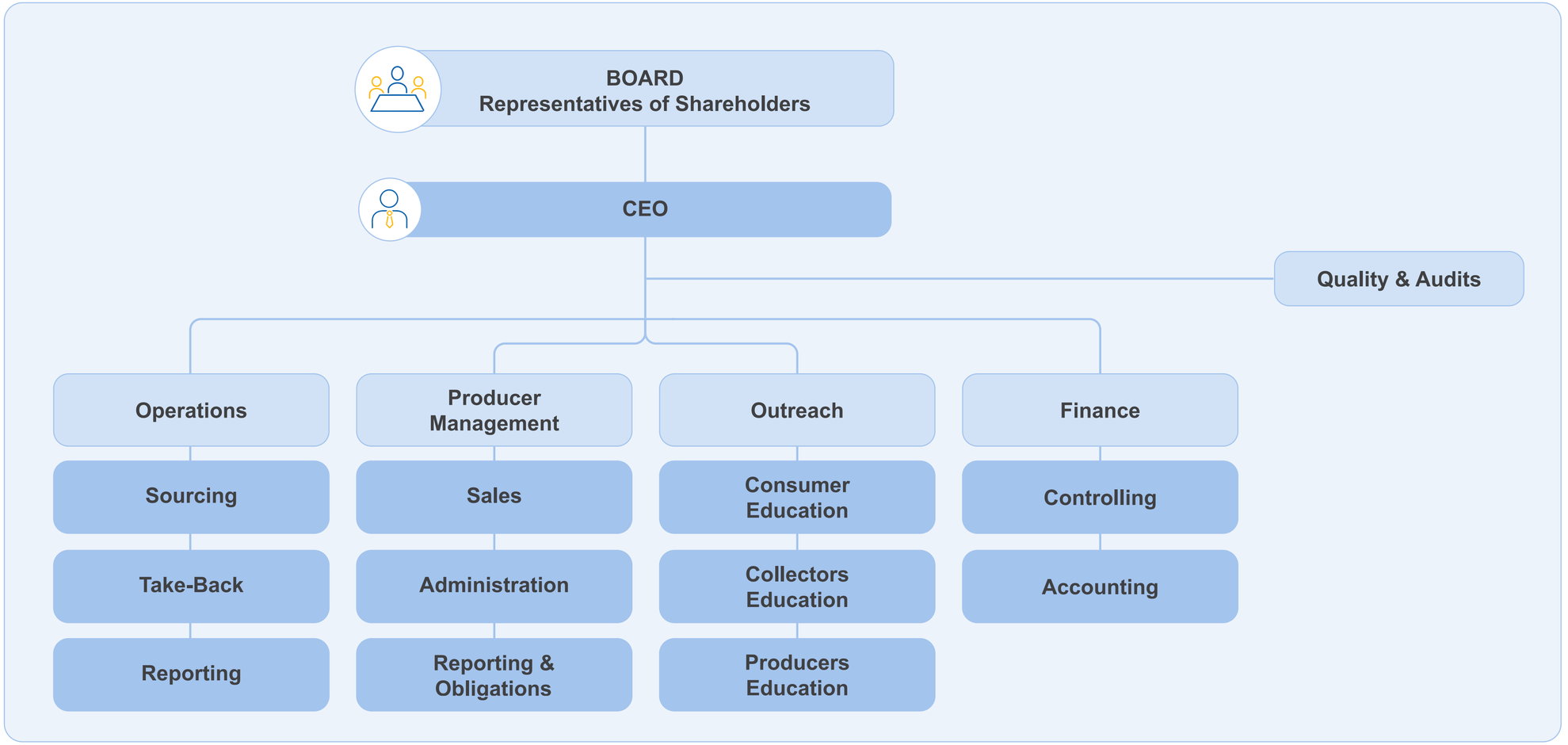
PRO licensing: check-list

PRO Role	PRO topics to be regulated	Is/will be regulated? Yes/No	Specify expectations in the permit/ licensing of the PRO
Core role of the PRO is to achieve collective targets In addition, PROs may support • Producers in achieving individual targets (for instance, capacity building in design for environment or in reuse systems) • Supply chain in elevating their operating standards or including informal sector	**Registration/Approval/Licensing** Targets • Collection • Recycling/recovery • Awareness • R&D Monitoring & controls • Producers • Supply chain Set-up • Governance • Profit/non-profit • Procurement methods • Tax regime • Financing/reserves Penalties	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No	☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ _____

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Brunei Darussalam | Cambodia | Indonesia | Malaysia | Philippines | Singapore | Thailand | Viet Nam

Stage	Standard	Scope	Download/Access
Brunei Darussalam			
Packaging & Material	PBD 12:2008 – Specification for Polyethylene PE and Polypropylene PP storage tanks	Establishes technical quality and safety benchmarks for polymer-based storage containers within the Brunei market	Link
Cambodia			
Labeling & Design	CS 001-2000 – Labelling of prepackaged food	Mandatory standard for all prepackaged food containers, governing physical labeling requirements and consumer protection info.	Link

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3.8.1 Factsheet: Relevant ASEAN National Standards

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Stage	Standard	Scope	Download/Access
Packaging Design	SNI 7188-7:2022 – Ecolabel criteria: product packaging and compostable bioplastic containers	Establishes environmental requirements for bioplastic packaging to be certified as compostable, ensuring it degrades without leaving toxic residues.	Link
	SNI 9243:2023 – Polypropylene (PP) block bottom single ply woven plastic sacks for cement packaging	Specifies the material quality, strength, and dimensions for PP-based industrial sacks, ensuring durability and material consistency.	Link
	SNI 12-4259-2004 – Plastic cups for bottled drinking water	Defines safety and quality requirements for single-use plastic cups, including migration limits for chemicals in contact with food/water.	Link
Collection & Sorting	SNI 3242:2008 – Technical procedures for operational management of urban waste	Outlines the standardized workflow for municipal waste management, from household segregation to collection and transport to processing sites.	Link
	SNI 19-3964-1994 – Methods for sampling and measuring the generation and composition of household waste	Provides the methodology for auditing waste streams to determine the volume and types of plastic waste generated by households.	Link
	SNI 8424:2023 – Polyethylene Terephthalate (PET) resin for food and beverage packaging	Sets the standard for high-quality PET resins, including those intended for bottle-to-bottle recycling loops to ensure food safety.	Link
Recycling & Traceability	SNI 8424:2023 – Polyethylene Terephthalate (PET) resin for food and beverage packaging	Sets the standard for high-quality PET resins, including those intended for bottle-to-bottle recycling loops to ensure food safety.	Link

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3.8.1 Factsheet: Relevant ASEAN National Standards

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Stage	Standard	Scope	Download/Access
Packaging Design & Eco-Label	SIRIM ECO 001:2018 – Eco-labelling criteria; Biodegradable and compostable plastic and bioplastic	Criteria ensuring plastic films or bags truly degrade under Malaysian tropical conditions without toxic residues.	Link
	MS 2565:2014 – Plastic packaging materials for food general requirements	Technical specifications focusing on safety and quality for plastic food packaging according to local food safety standards.	Link
	SIRIM ECO 074:2019 – Eco-labelling criteria for oxo-biodegradable plastic	Defines the technical stages of oxidative and biological degradation for plastics commonly used in Malaysian retail.	Link
Recycling & Material	MS 1904:2006 – Specification for Polyethylene HDPE plastics from recycled post-consumer sources	Establishes quality and technical specifications for HDPE material recovered from waste to be reused in manufacturing.	Link
Collection & Management	MS 1472:2017 – Code of practice for fire precautions in the design of buildings - Smoke control system	While primarily for fire safety, this updated standard (replacing the 1999 version) governs the physical infrastructure for waste handling in buildings.	Link

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3.8.1 Factsheet: Relevant ASEAN National Standards

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Stage	Standard	Scope	Download/Access
Packaging Design & Eco-Label	PNS 2102:2013 – Specification for compostable plastic	Specifies the requirements for plastics to be classified as compostable, ensuring they break down safely in composting environments.	Link
	PNS 2104:2011 – Standard specification for plastics that degrade in the environment by a combination of oxidation and biodegradation	Establishes technical criteria for oxo-biodegradable plastics widely used in the local retail market.	
	PNS 2093:2011 – Plastic industry - Labeling of plastic products for recycling	Provides guidelines for the standardized labeling and marking of plastic products to assist in identification and sorting for recycling.	
Recycling & Management	PNS 2092:2011 – Plastic industry - Recycling and waste management - Guidelines for the recovery and recycling of plastics waste	Sets the national procedure for the collection, recovery, and technical processing of post-consumer plastic waste.	
	PNS 2097:2014 – Plastic industry - Terminology for plastic recycling	Defines technical terms used in the Philippine plastic recycling industry to ensure uniform understanding among stakeholders.	

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3.8.1 Factsheet: Relevant ASEAN National Standards

Brunei Darussalam | Cambodia | Indonesia | Malaysia | Philippines | **Singapore** | Thailand | Viet Nam

Stage	Standard	Scope	Download/Access
Packaging Design & Practices	TR 109:2023 – Sustainable packaging guiding framework and practices	Specifies guidelines and best practices for implementing 3R (Reduce, Reuse, Recycle) across the packaging lifecycle in Singapore.	Link
Traceability & Audit	SS 587 – Packaging Waste Management	Provides guidelines for reducing packaging waste, improving packaging design efficiency, and supporting sustainable packaging practices in Singapore.	Link

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3.8.1 Factsheet: Relevant ASEAN National Standards

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Stage	Standard	Scope	Download/Access
Packaging Design	TIS 2732-2559 – Oxo-degradable plastic bags for shopping and general purposes	Technical specifications for strength and degradation rates of oxo-degradable bags used in Thai retail.	Link
	TIS 1702-2562 – Plastic containers for food: Polypropylene	Updated standard specifying material safety, migration limits, and durability for PP containers in the local market.	
	TIS 1146-2560 – Polyethylene drinking water bottles	Specific requirements for PE-based bottles, ensuring they meet national health and recyclability standards.	
Eco-Label & Material	TIS 2552-2553 – Compostable plastics	Requirements for plastic materials that can be composted in municipal and industrial facilities in Thailand.	
	TIS 655 Part 1-2553 – Plastic containers for food: Polyethylene, Polypropylene, Polystyrene, and PET	A foundational standard in Thailand that sets different safety levels for various polymers used in domestic packaging.	

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3.8.1 Factsheet: Relevant ASEAN National Standards

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Stage	Standard	Scope	Download/Access
Packaging Design & Eco-Label	NSTVN 01:2023 – Environmental friendly plastic packaging criteria	Technical criteria for biodegradable and recycled plastic packaging, requiring at least 20% recycled content (increasing to 30% by 2030) and 90% biodegradation within two years.	Link
	QCVN 12-1:2011/BYT – National technical regulation on safety and hygiene for synthetic resin packaging in contact with food	Safety standards specifically for plastic resins used in food contact, governing chemical migration limits for the local market.	
Recycling & Material	TCVN 12272:2018 – Specification for single-use plastic products and utensils	Defines quality and material requirements for single-use plastics to ensure safety and facilitate standardized collection for recycling.	Link
	TCVN 6096:2010 – Polyethylene Terephthalate PET bottles for drinking water	Technical specifications for PET bottles produced and circulated in Viet Nam, ensuring material consistency for the domestic recycling stream.	
Collection & Management	TCVN 33:2020 – Guidelines on the management and reduction of plastic waste	National directive providing technical procedures for government branches and industries to manage, reuse, and treat plastic waste at the source.	

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3.9 Education, Awareness, Outreach

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3.9.1 Guidance Note: Awareness & Outreach

Who	Target audience	Where	What	When
Producers	Consumers Retailers	• Digital channels • Labelling	• Information about product design • Sorting instructions	• Continuously
PROs	Consumers Retailers Waste operators Municipalities	• Digital channels • National TV/radio • In the field	• Sorting instructions • How to dispose of waste • Sustainable consumption • Information on recycling process and what happens with waste • Collection events	• Continuously and event-based
Municipalities	Residents	• Digital channels • At collection points • Door-to-door	• Collection events • Sorting instructions • How to dispose of waste	• Continuously and event-based

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3.9.1 Guidance Note: Awareness & Outreach

Who	Target audience	Where	What	When
National government	Consumers Producers Waste operators	• Digital channels • National TV/radio	• Sustainable consumption • Information on recycling process and what happens with waste • Eco-design • Producer obligations • Role of retailers • Regulatory updates	• At launch • Event-based • Periodically
Retailers	Consumers	• Digital channels • In-store	• Collection events • How to dispose of waste • Where to dispose of waste in the store (if such a possibility exists)	• Continuously and event-based
NGOs	Consumers Waste operators	• Digital channels • In the field	• Any of the above, depending on NGO's scope of work	• Any of the above, depending on NGO's scope of work

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3.10 The Informal and Semi-Formal Sectors

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Chapter 4.3.8

3.10.1 Factsheet: Inclusion Principles for the Informal Sector

Stakeholders may consider the following principles when integrating informal and semi-formal waste workers into EPR systems to ensure that their contributions to material recovery are recognized while improving working conditions and livelihoods (ILO, 2019; DEFF & DSI, 2020; WIEGO, 2021).

Recognition	Inclusion	Formalization	Activation
Recognize informal waste workers as legitimate actors in the recycling value chain. Their role in collecting, sorting, and recovering recyclable materials should be acknowledged in national waste management policies and EPR system design.	Ensure informal workers are meaningfully included in EPR implementation and governance. This may involve participation in collection and sorting activities, integration into formal recycling chains, and involvement in stakeholder consultations or coordination platforms. Inclusion may also involve representation of waste worker groups, cooperatives, or associations in policy discussions, PRO engagement processes, or municipal waste management planning.	Provide pathways for informal workers to access formal waste management systems while preserving livelihood opportunities. Formalization approaches may include registration and reporting systems, cooperative models, service contracts with municipalities or PROs, or integration into material recovery facilities.	Support informal workers to become active partners in EPR implementation through targeted support such as training programs, financial incentives, contribution to waste traceability, access to equipment, and improved working infrastructure.

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  - Factsheet: Human Rights Alignment

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3.10.2 Checklist: Health and Safety Provisions

Informal sector workers, particularly waste pickers and small recyclers, often face high levels of risk due to inadequate health and safety standards. Below is an overview of key health and safety provisions for informal sector workers (ILO, 2019; DEFF & DSI, 2020; World Bank, 2022).

☐	Personal Protective Equipment (PPE): Informal workers need proper protective equipment such as gloves, masks, boots and eye protection to minimize exposure to hazardous materials.
☐	Safe Work Environment: Workers should be provided with proper waste handling areas, including shelters, waste sorting facilities and equipment to prevent injuries and accidents. They also should be given access to clean water, sanitation and hygiene facilities.
☐	Training & Education: Informal workers must receive training in safe waste collection, sorting and recycling practices, as well as proper handling of toxic or hazardous materials.
☐	Health Monitoring: Regular health checks should be performed to monitor for illnesses or diseases caused by exposure to hazardous materials like e-waste, chemicals and plastics.
☐	Hazardous Materials: Specific focus should be given to workers exposed to hazardous waste, such as batteries, electronic waste or medical waste. Detailed guidelines should include protective measures to reduce exposure to toxic substances.

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3.10.3 Factsheet: Human Rights Alignment

This section ensures that the inclusion of informal sector workers in the EPR system aligns with international human rights standards, guaranteeing dignity, fair compensation and protection from exploitation.

Human Rights Aspect	Relevant Standard	Explanation
Fair Pay	ILO Convention No. 100 (Equal Remuneration)	Informal workers should receive wages that meet at least the minimum wage standard and are equal to their work.
Non-Discrimination	ILO Convention No. 111 (Discrimination in Employment)	Workers should not face discrimination based on gender, race or other factors in their work or treatment.
Freedom of Association	ILO Convention No. 87 (Freedom of Association)	Informal workers should have the right to join or form unions and engage in collective bargaining.
Safe Working Conditions	ILO Convention No. 155 (Occupational Safety and Health)	Employers must provide a safe work environment, with proper equipment and training to avoid occupational hazards.
Social Protection	ILO Convention No. 102 (Social Security)	Informal workers should have access to social protections, including health care, pensions and paid leave.
Gender Equality	ILO Convention No. 156 (Workers with Family Responsibilities)	Policies should ensure equal pay, job security and protection for women, and ensure their inclusion in EPR systems.
Child Labor Prohibition	ILO Convention No. 138 (Minimum Age)	No child labor should be involved in waste collection or recycling.

4 Regulation and Enforcement
4.1 Aspects that an EPR Regulation Should Cover
Checklist: Aspects that an EPR Regulation Must Cover
4.2 Penalties
4.3 Incentives



4 Regulation and Enforcement

4.1 Aspects that an EPR Regulation Should Cover

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4.1.1 Checklist: Aspects that an EPR Regulation Must Cover

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Legal basis and policy objectives

- [ ] Legal basis enabling the EPR scheme
- [ ] Statement of policy objectives

Product scope

- [ ] Products or packaging categories covered
- [ ] Materials covered
- [ ] Thresholds for inclusion (if applicable)
- [ ] Exclusions (if applicable)

Definitions

- [ ] Obliged Producer (including importers, brand owners, own-brand retailers)
- [ ] Put-On-Market (POM)
- [ ] Producer responsibility organization (PRO)
- [ ] Collection
- [ ] Sorting
- [ ] Material recovery
- [ ] Recycling (distinguishing mechanical from chemical where relevant)
- [ ] Reuse
- [ ] End-of-life management
- [ ] Informal sector (recognized collection actors, where applicable)

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4.1.1 Checklist: Aspects that an EPR Regulation Must Cover

Incentives and penalties

- [ ] Sanctions for non-registration
- [ ] Sanctions for non-reporting or misreporting
- [ ] Sanctions for non-payment of EPR fees
- [ ] Sanctions for non-compliance
- [ ] Incentives for waste reduction, waste collection (if applicable)
- [ ] Appeals mechanism

PRO framework

- [ ] Authorization requirement for PROs
- [ ] Governance requirements for PROs
- [ ] Obligations PROs must fulfill on behalf of member producers
- [ ] Conditions for authorization refusal, suspension, or withdrawal

Competent authority

- [ ] Designation of the competent authority responsible for EPR oversight
- [ ] Powers of competent authority
- [ ] Funding mechanism for competent authority (if needed)

Targets

- [ ] Collection targets (optional)
- [ ] Recycling targets
- [ ] Recovery targets (if needed)
- [ ] Reuse targets (where applicable)
- [ ] Target review mechanism
- [ ] Consequences of target non-achievement

Producer obligations

- [ ] Registration obligation
- [ ] Reporting obligation
- [ ] Financial contribution obligation
- [ ] Compliance method (individual compliance vs. joining a PRO)
- [ ] Packaging design obligations
- [ ] Minimum recycled content obligations
- [ ] Labelling obligations (if covered)

Note: the type of legislative instrument to be used for addressing above aspects will depend on the legislative system of each ASEAN Member State. Enforceability as well permanent or temporary (*) nature of the requirements will guide the choice of the most suitable legislative instruments.

(*) some requirements are meant to remain unchanged while others will have to change from time to time (scope, targets).

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4.2 Penalties

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4.2.1 Guidance Note: Designing Penalty Structures

Step 1: Classify non-compliance before assigning penalties

Define each type of non-compliance precisely in the regulation before specifying the corresponding sanction. Use the following classification:

Non-compliance type	Examples
Administrative failure	Late registration or lack thereof, late POM declaration of lack thereof, incomplete reporting
Financial non-compliance	Non-payment or underpayment of EPR fees
Operational non-compliance	Failure to meet collection or recycling targets, failure to maintain required infrastructure
Misrepresentation	Incorrect/false POM declarations, fraudulent recycling claims, fraudulent audits
Systemic non-compliance	Persistent failure across multiple obligation types; operating without authorization

The scale and type of penalty for each category shall be different. In the enforcement framework, they should be treated as distinct paths rather than as a single, undifferentiated list.

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Step 2: Choose a proportionality basis

Two approaches to proportionality are available. They are not mutually exclusive and both can apply simultaneously.

Option A - Proportionality based on severity of violation	Option B - Proportionality based on economic capacity
Penalties scaled based on the degree of harm the violation causes to the EPR system or to the environment. A producer that fails to register on time causes less system harm than one that submits fraudulent recycling data or does not meet EPR targets. The penalty reflects this difference. This approach is easier to communicate to producers and easier to defend before an appeals body. Its weakness is that a flat fine (even a large one) may be insignificant for a major multinational and devastating for a small domestic producer.	The penalties are calculated as a percentage of the total POM volume, annual EPR fee liability or annual turnover. No matter the size of the organization, a 2% annual turnover fine is equally burdensome, regardless of company size. Penalties are determined as a percentage of annual turnover, annual EPR fee liability, or total POM volume. This approach is more equitable but requires gathering and verification of the financial data by the competent authority, which may be challenging during the early stages of EPR implementation.
Begin with Option A in the first phase of implementation, when enforcement capacity and data availability are limited.	**Build in Option B for repeat or large-scale violations once producer reporting data is reliable.**

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Step 3: Structure penalties in graduated tiers

Penalties need to be graduated, since a single flat fine for all violations removes incentive for a violator to correct behavior before the next infraction. The following three-tier structure can be applied.

Tier 1 - Warning and remediation order	Tier 2 - Administrative fine	Tier 3 - Escalated sanction
When: For first-instance administrative failures. **Measure:** No financial penalty. The violator receives a formal written warning and a defined deadline to correct the failure. This tier exists to distinguish oversight from deliberate non-compliance.	**When:** Applied when Tier 1 has not resulted in a correction within the time frame specified, or when the violation is financial or operational rather than administrative. **Measure:** Imposing a fine. The fine amount should exceed the economic benefit of noncompliance.	**When:** Applied for misrepresentation, systemic non-compliance, or repeated violations. **Measure:** Options at this tier may include: • Significantly increased fines (for instance, multiplied per day of continuing violation) • Suspension of the right to place packaged product on the market (in case of PROs suspension or revocation of authorization). • Criminal referral is available for cases of deliberate fraud, although it should not be the default escalation route.
In all cases, proof gathering is to distinguish mistakes from intentional non-compliance.		

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Step 4: Apply the assessment matrix

Decide on which tier shall be applied in each situation. Consider the examples below.

	First offence	Repeated offence	Deliberate or fraudulent
Administrative failure	**Example:** Tier 1 Formal written warning + defined remediation deadline. The violator must correct the failure within the specified period; no financial penalty applies at this stage.	**Example:** Tier 2 Administrative fine. The fine reflects that a prior warning did not produce correction; the amount should exceed any cost saving achieved by the delay.	**Example:** Tier 2 Administrative fine + public notice of the decision. Public disclosure is applied because deliberate administrative failure (e.g., willful non-registration) undermines the integrity of the scheme.
Financial non-compliance	**Example:** Tier 2 Fine + interest accruing on the unpaid amount from the due date. There is no ambiguity in financial non-compliance (either the payment was made or it was not), so a warning is not appropriate anymore.	**Example:** Tier 2 Increased fine + mandatory payment plan with monitoring by the competent authority. The payment plan obligation prevents the violator from accumulating further arrears while the fine is being contested.	**Example:** Tier 3 Escalated fine + suspension of the right to place packaged product on the market. Deliberate fee evasion is treated as a fundamental breach of the producer's core EPR obligation and unfair competition.
Operational non-compliance	**Example:** Tier 2 Fine + mandatory corrective action plan to be submitted and approved by the competent authority. Missing a target at the end of a full reporting period may have different root causes, some of which may entail penalties (for instance the PRO or the producer not deploying necessary efforts).	**Example:** Tier 3 Escalated fine + additional reporting requirement to demonstrate that the issue has been solved.	**Example:** Tier 3 Maximum fine + suspension of market access or PRO authorization. Deliberate operational non-compliance (for example, claiming credit for recycling volumes that were not achieved) is treated as misrepresentation and sanctioned accordingly.

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Step 4: Apply the assessment matrix

Decide on which tier shall be applied in each situation. Consider the examples below.

	First offence	Repeated offence	Deliberate or fraudulent
Misrepresentation	**Example:** The competent authority requests clarification before any financial penalty is determined. If no evidence of intent or pattern is found, it may decide, depending on the scale of misrepresentation, a fine Tier 2 or just a warning Tier 1 + mandatory data correction. In case an intent or a pattern of underreporting is discovered, a fine will be necessary Tier 2.	**Example:** Tier 3 Escalated fine + suspension. A repeated misrepresentation triggers the presumption of deliberate conduct and warrants escalated sanction.	**Example:** Tier 3 Maximum fine + criminal referral. Deliberate falsification of POM or recycling data for financial gain is treated as fraud and referred to the relevant criminal authority.
Systemic non-compliance	**Example:** Tier 3 Fine + mandatory corrective action plan. A corrective action plan is required even at first instance to create an auditable record of the remediation commitment before suspension is considered.	**Example:** Tier 3 Maximum fine + suspension of producer registration or PRO authorization. Continued systemic failure after a corrective action plan has been agreed demonstrates either incapacity or unwillingness to comply; suspension is the appropriate response.	**Example:** Tier 3 Revocation of registration or PRO authorization. Deliberate and systemic non-compliance is incompatible with continued participation in the EPR scheme; revocation removes the actor from the scheme entirely.

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Step 5: Build in procedural safeguards

A penalty structure lacking procedural safeguards will be successfully challenged before producing results. The regulation must include (if it is not included in more general legislation):

Right to be heard:
Before any Tier 2 or Tier 3 penalty is imposed, the violator must be given written notice of the alleged violation and a specified time to respond.

Right of appeal:
All penalty decisions must be subject to administrative appeal to an independent body. The appeal period and the body should be defined in the regulation.

Publication of decisions:
Tier 3 decisions should be made publicly available. Producers and PROs who are aware that enforcement decisions are public will increase internal compliance pressure.

Statute of limitations:
Establish a time frame within which enforcement action must be taken after a violation has been identified.

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4.3 Incentives

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4.3.1 Checklist: Designing Incentives in EPR Systems

Define stakeholder group that incentives should target	Define outcomes that incentives should support	Recommended incentives
 ☐ Producers	☐ Better design (packaging easier to recycle, made with recycled content, free of hazardous substances, etc.) ☐ Higher compliance/ lower-free-riding ☐ Joining EPR scheme without a mandate (e.g., MSMEs) ☐ Other: ……	☐ Eco-modulated EPR fees ☐ Green procurement by public sector ☐ Recognition awards and/or eco-labels for high-performing producers ☐ Innovation grants/ tax exemptions/ preferential loans to support better design ☐ Technology imports easements (e.g., lower custom duties, simplified procedures) to support better design ☐ Reduced compliance burden (e.g., simplified reporting for MSMEs) ☐ Requirement to incorporate domestically recycled content into packaging ☐ Development of recycled content standards ☐ Other:……

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4.3.1 Checklist: Designing Incentives in EPR Systems

Define stakeholder group that incentives should target	Define outcomes that incentives should support	Recommended incentives
 ☐ Consumers	☐ Dispose of waste properly ☐ Separate waste at source ☐ Return waste packaging through desired collection channels ☐ Other: ……	☐ Deployment of free-of-charge collection bins ☐ Convenient and accessible collection systems ☐ Reward schemes (vouchers, loyalty points, digital rewards, etc.) ☐ Behavioral incentives (school programs, collection campaigns, gamification, etc.) ☐ Channels to report improper disposal coupled with immediate reaction by appropriate authorities ☐ Other:……
 ☐ Retailers and distributors	☐ Provide take-back options free of charge to consumers ☐ Consolidate collected waste packaging ☐ Inform consumers about packaging return options ☐ Other: ……	☐ Ensuring service fees from PROs for collection, consolidation, storage and, where applicable, transport to aggregation points ☐ Increased customer traffic thanks to take-back systems ☐ Branding opportunities: green retailer programs ☐ Reduced obligations where retailers exceed collection requirements ☐ Other:……

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4.3.1 Checklist: Designing Incentives in EPR Systems

Define stakeholder group that incentives should target	Define outcomes that incentives should support	Recommended incentives
 ☐ Local authorities	☐ Implement source segregation programs ☐ Conduct and/or support awareness and communication campaigns ☐ Work with PROs ☐ Integrate EPR into municipal waste services ☐ Other: ……..	☐ Funding linked to collection or sorting performance ☐ Shared revenues from recyclables where appropriate ☐ Co-financing for collection, transfer and sorting infrastructure from the central government ☐ Financial support for awareness campaigns (contribution by central government and/or PROs and producers) ☐ Technical assistance ☐ Other:…….

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4.3.1 Checklist: Designing Incentives in EPR Systems

Define stakeholder group that incentives should target	Define outcomes that incentives should support	Recommended incentives
 ☐ Waste operators	☐ Invest in collection, sorting and recycling capacity ☐ Ensure EHS standards ☐ Remunerate informal sector adequately ☐ Other: ……	☐ Long-term collection and recycling targets to increase predictability of operations and capacity planning ☐ Long-term PRO contracts to reduce investment risk ☐ Minimum feedstock commitments from PROs ☐ Preferential loans, grants, and/or tax exemptions for investments into infrastructure ☐ Technology imports easements (e.g., lower custom duties, simplified procedures) to support infrastructural upgrades ☐ Priority access to land for recycling infrastructure ☐ Simplified permitting for recycling operations ☐ Technical assistance ☐ Personal Protection Equipment (PPE) for informal sector ☐ Mandatory inclusion of informal picker cooperatives/associations in PRO reverse supply chain ☐ Other:……

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4.3.2 Guidance Note: Good Practices of Incentive Design

DIMENSION			
 **Policy**	 **Financial sustainability**	 **Monitoring**	 **ASEAN context**
○ Incentives clearly support EPR targets ○ Incentives only complement and do not replace regulatory obligations ○ Incentives avoid market distortion ○ Positive incentives alone are not sufficient: penalties for free-riding and non-compliance are in place	○ Incentives are financially sustainable and attractive ○ Funding sources are identified (e.g., EPR fees, producer contributions, donor support) ○ Long-term public budget and donor support dependence is avoided ○ Incentives could be financed with penalties collected	○ KPIs are defined for each incentive ○ Data collection responsibilities are assigned, and data is verified ○ Incentives may be adjusted over time, with behavioral change taking place	○ Informal sector impacts are assessed and considered ○ Urban and rural (main island/ remote territories) access differences are considered ○ MSMEs are not disproportionately burdened ○ Local recycling market capacity is considered

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5.1.1 Guidance Note: Estimating Put-On-Market (POM) Weight Estimation

Plastic Packaging Put-On-Market (POM) Weight Estimation: Data source guidance for producers to be shared by PROs and/or Producer Register

Packaging component/ data need	A: Manufacturer (domestic producer)	B: Importer	Fallback (if A or B unavailable): physical weighing & apportionment	Notes
Primary packaging (directly contacts product)	Bill of Materials (BoM): weight per unit per plastic component. Cross-check with packaging material supplier data sheets or technical specifications.	Request BoM or product specification sheet from overseas supplier.	Weigh a representative sample of units. Record gross weight (product + packaging), subtract tare (product fill weight) to isolate packaging weight. Separate by plastic type if multi-material.	
Secondary/grouped packaging (e.g. plastic sleeve, shrink film grouping multiple units)	BoM or production records: divide total film/sleeve weight per production run by number of units per grouped pack to estimate weight per unit.	Request grouped-packaging specification from supplier.	Weigh one complete grouped pack (e.g. 6-pack sleeve). Divide total plastic weight by number of individual units contained for apportionment per SKU.	
Tertiary/transport packaging (e.g. stretch/pallet film, strapping)	BoM or production records: divide total film/sleeve weight per production run by number of units per grouped pack to estimate weight per unit.	Request grouped-pack specification from supplier.	Weigh a full pallet wrap (or one pallet's film). Divide by total number of SKU units on pallet. Apply consistently across all pallet configurations used.	
Multi-material/composite packaging (e.g. plastic-coated paperboard, laminate pouches)	BoM should specify plastic layer weight separately. If not, request laminate breakdown from the packaging converter/supplier.	Request grouped-pack specification from supplier.	Weigh full packaging item, then use material weight % from datasheet to calculate plastic fraction. Where no datasheet exists, separate materials mechanically and weigh each layer individually.	If EPR obligation refers exclusively to plastic packaging, only plastic components should count toward EPR obligation. Document assumptions and % split clearly for audit trail.

Note: Consider the opportunity to develop and maintain a product database to record product weight in order to simplify producer reporting over time.

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5.1.2 Guidance Note: Estimating Collection Capacity

Plastic Packaging Collection - Capacity Estimation: Guidance for PROs

Collection capacity dimension	Baseline analysis & infrastructure mapping	Key data sources	Practical estimation approach	Gaps & caveats
Formal collection infrastructure	• Identify licensed waste collectors, MRFs or municipality-operated collection points, deposit return scheme nodes (if existing), and kerbside collection routes. • Map geographic coverage and service frequency.	• Waste collector license registers (environment/ licensing authority). • Municipal waste management plans. • Government reporting systems. • Trade association membership directories.	• Interview supply chain participants. • Review existing data. • Compile a georeferenced inventory of collection points and operators. • Estimate throughput per node using reported tonnages or vehicle capacity × trip frequency × operating days. • Aggregate to scheme coverage area.	• License registers may be incomplete or outdated. • Reported tonnages may cover mixed waste streams. • Plastic-specific data must be disaggregated from the other waste.
Informal sector collection	• Map informal waste picker networks, aggregators/ middlemen, and informal buy-back or junk-shop operators. • Estimate active population and geographic distribution. • Understand material flows toward formal recyclers/ traders/exporters. • Understand where informal sector is active (door to door, transfer stations, landfill, etc.)	• Interviews with municipalities, waste operators and associations where they exist. • Academic or donor-funded waste studies. • Direct field surveys; informal sector.	• Apply average daily collection yield per picker (from literature or interviews) × estimated active picker population in the area. • Validate against volumes received by aggregators or recyclers sourcing from informal sector.	• Informal sector is structurally undercounted. • Picker numbers and yields vary widely by context and material prices. • Avoid double-counting with formal system volumes.

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Plastic Packaging Collection - Capacity Estimation: Guidance for PROs

Collection capacity dimension	Baseline analysis & infrastructure mapping	Key data sources	Practical estimation approach	Gaps & caveats
Retailer & producer take-back points	Identify in-store collection bins, reverse vending machines (RVMs), brand-operated take-back programs and e-commerce return schemes.	• Retailer interviews and site visits. • Producer/brand sustainability reports. • PRO member declarations of own collection initiatives. • National retail associations data.	Obtain reported collection volumes per retailer or program.	• Self-reported volumes may lack independent verification. • Plastic type mix at in-store bins is often uncontrolled.
Municipal & public space collection	• Assess kerbside, drop-off, and public bin collection managed by municipalities. • Determine whether plastic is separately collected or co-mingled, and what sorting and transfer infrastructure exists downstream.	• Municipal waste management plans and budgets. • Interviews with city/district solid waste departments. • Existing waste characterization studies. • Government environmental statistics.	• Use municipal collection tonnage data (total waste collected) combined with waste composition studies to estimate plastic fraction. • Apply reported collection volumes to deduct plastic tonnage handled.	• Municipal data quality varies significantly. • Co-mingled collection introduces contamination losses before recyclable plastic is recoverable.
Sorting & processing capacity	• Map MRFs, sorting facilities, and recyclers able to receive and process collected plastic. • Distinguish capacity by plastic type (PET, HDPE, flexible film, etc.). • Identify bottlenecks or geographic gaps between collection and processing.	• Waste operator interviews and site visits. • Recycler capacity declarations. • Government facility and licensing registers. • Trade associations data.	• For each facility, record declared intake capacity (tons/year), actual utilization rate, and plastic types accepted. • Sum available capacity by type and geography. • Compare against estimated collection volumes to identify system constraints.	Facilities may over-declare capacity.

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5.1.3 Guidance Note: Securing Operational and Financial Resources by PROs

Resource dimension	Financial PRO model	Operational PRO model	Hybrid PRO model	Key levers & cross-cutting considerations
Baseline resource mapping	• Map existing financial flows in the waste system: what fees or gate charges waste operators already charge; what costs are currently borne by municipalities. • Financial compensation of municipalities may require national or local negotiation. • Required budget is to be translated into an EPR Fee price list for recovery from producers.	Map physical infrastructure gaps: which collection, sorting, and processing capacity exists, at what utilization rate, and where geographic or material-type gaps lie. This scopes the operational investment or contracting need.	• Conduct both the financial flow mapping and the infrastructure gap analysis in parallel. The hybrid model must size the split between contracted-out and self-operated capacity before committing to any resource mobilization strategy. • The split may be parallel (depending on the collection channel) or sequential (for instance, financial for collection but operational for recycling).	• Mapping and gaps identified here directly inform the PRO business plan and the scale of resources to be secured. • Failing that, fee setting must include safety margin.

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Resource dimension	Financial PRO model	Operational PRO model	Hybrid PRO model	Key levers & cross-cutting considerations
Operational resources: contracting vs. vertical integration	• Not directly applicable: financial PROs do not enter in waste management activities. • Instead, PRO capacity is determined by the contracts/ agreements signed with municipalities in proportion to the obligation they carry.	• PRO either (a) directly invests in collection/ sorting/processing assets (vertical integration) or (b) contracts capacity from existing operators. • Direct investment gives control but requires capital and carries stranded-asset risk if collection volumes underperform, plus risk of technical obsolescence. • Most PROs do not integrate vertically, i.e. directly own waste treatment assets and operations. Vertical integration might also be prohibited by national EPR framework.	• PRO either (a) directly invests in collection/ sorting/processing assets (vertical integration) or (b) contracts capacity from existing operators. • Direct investment gives control but requires capital and carries stranded-asset risk if collection volumes underperform, plus risk of technical obsolescence. • Most PROs do not integrate vertically. Vertical integration might also be prohibited by national EPR framework.	Procurement contracts can include performance incentives (volume bonuses, quality premia) to stimulate private investment in capacity without direct PRO capital outlay. Multi-year contracts and territorial exclusivity arrangements provide the revenue visibility to operators who need to justify their own investment.
Financial resources: POM Fee model	Producer-paid EPR fees are the primary revenue source. Fees must be set to cover full variable cost of collection and treatment per ton, fixed PRO operating and a prudential reserve. Surpluses at the end of each fiscal year will be accrued as reserves, or part or all may be declared as profit by for-profit PRO. Fee adequacy should be reviewed annually against actual costs.	Producer-paid EPR fees are the primary revenue source. Fees must be set to cover full variable cost of collection and treatment per ton, fixed PRO operating and a prudential reserve. Surpluses at the end of each fiscal year will be accrued as reserves, or part or all may be declared as profit by for-profit PRO. Fee adequacy should be reviewed annually against actual costs.	Producer-paid EPR fees are the primary revenue source. Fees must be set to cover full variable cost of collection and treatment per ton, fixed PRO operating and a prudential reserve. Surpluses at the end of each fiscal year will be accrued as reserves, or part or all may be declared as profit by for-profit PRO. Fee adequacy should be reviewed annually against actual costs.	Where EPR fees are not yet mandated, membership fees or retainers from producers must cover at least fixed PRO costs until fee income is established. A minimum committed volume from founding members is advisable before PRO launch.

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Resource dimension	Financial PRO model	Operational PRO model	Hybrid PRO model	Key levers & cross-cutting considerations
Financial resources: C/T Fee model and certificate trading model		• In a collected/treated model, the PRO will recoup its variable operating costs and fixed from the producer through a C/T EPR Fee. • In a certificate-based system, the PRO acts as intermediary: it purchases recycling or treatment certificates from verified waste operators and sells them to producers at a margin. The PRO's operating costs are covered by this intermediation margin, which must be set transparently and remain competitive against direct bilateral transactions.		• In a certificate-based system, the certificate margin must reflect genuine coordination and verification costs. • Should regulation cap the margin, the PRO must size its operating cost base accordingly.
Payment terms: producers (revenue side)	Producers should ideally be invoiced in advance of the service period (upfront prepayment). This provides the PRO with working capital before committing expenditure to waste operators. Annual POM declarations with quarterly fee advance instalments are a common structure.	Even in a C/T or Recycling Certificate model, PRO may de-risk cash flow by securing upfront producer payments covering its fixed cost (this can be a membership fee or similar).	Producers should ideally be invoiced in advance of the service period (upfront prepayment). This provides the PRO with working capital before committing expenditure to waste operators. Annual POM declarations with quarterly fee advance instalments are a common structure.	• Upfront payment from producers vs. arrears payment to operators is the PRO's primary liquidity lever. • The gap between the two (in amount and timing) constitutes the PRO's working capital buffer. • Achievement depends on PRO bargaining power and local business norms.

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Resource dimension	Financial PRO model	Operational PRO model	Hybrid PRO model	Key levers & cross-cutting considerations
Payment terms: waste operators & suppliers (expenditure side)	• Waste operators and collectors are typically paid in arrears, upon verified completion of service delivery (volume collected, volume processed, quality met, documentation submitted). • Payment cycles are to be considered in relation to the terms extended to producers.	• Waste operators and collectors are typically paid in arrears, upon verified completion of service delivery (volume collected, volume processed, quality met, documentation submitted). • Payment cycles are to be considered in relation to the terms extended to producers.	• Waste operators and collectors are typically paid in arrears, upon verified completion of service delivery (volume collected, volume processed, quality met, documentation submitted). • Payment cycles are to be considered in relation to the terms extended to producers.	• Producer payment terms should always be shorter than operator payment terms, ensuring the PRO is in receipt of funds before outflows are due. Where operator cash flow is a barrier to participation (common with smaller informal-sector aggregators), consider a partial advance against verified delivery. • This also depends on parties' respective bargaining power, regulations and local business practices.
Subsidies, grants & blended finance	At EPR inception, government transition subsidies or donor grants may be available to support PRO establishment costs, system design and early fee shortfalls.	At EPR inception, government transition subsidies or donor grants may be available to support PRO establishment costs, system design and early fee shortfalls.	At EPR inception, government transition subsidies or donor grants may be available to support PRO establishment costs, system design and early fee shortfalls.	Subsidy dependency should be time-limited as the principle of EPR is that costs are covered by producers.

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5.2 Costing and Pricing

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4.5.2 Costing and Pricing

5.2.1 Guidance Note: Operating Cost Estimation

This general instruction covers two primary operating models and should be adapted to the actual operating models chosen by each ASEAN Member State:

Model A – Reverse chain design & operation: the PRO designs, contracts and oversees its own collection infrastructure using third-party service providers (collectors, aggregators, sorting facilities, recyclers, recovery facilities, transporters).

Model B – Certificate-based fulfillment: the PRO purchases certified treatment/recycling certificates from accredited operators, without directly managing the physical chain.

Model A and Model B may be operated at the same time, when a PRO operates a reverse chain but complements it with purchased waste treatment certificates.

Waste streams in scope:

Municipal solid waste (MSW) – primary source: household plastic packaging from FMCG products sold in any ASEAN market. The scope may vary depending on the Member State.

Commercial waste – primarily retailers' tertiary/transport packaging (stretch film, strapping, crates, etc.) may also be in scope.

Industrial bulk packaging (IBC, drums, big bags) is out of scope unless explicitly included in the PRO's EPR obligation perimeter.

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5.2.1 Guidance Note: Operating Cost Estimation

Prerequisites Before Starting the Estimation | **Step-by-Step Estimation Process**

Ensure the following inputs are confirmed before building the cost model:

Regulatory & Obligation Data
- EPR obligation tonnage per country and per relevant material category (PET, PE, PP, PS, multilayer, etc.).
- Applicable national EPR system rules: whether certificate purchase is permitted, minimum formal-sector collection ratios and traceability requirements.
- Reporting period (annual, quarterly) and approved counting methodology (net vs. gross tons).

Market Intelligence
- Local commodity prices for each plastic fraction (per ton or kg) at the offtaker gate – try and update at least quarterly.
  - Consider waste banks, recyclers, cement plants, sanitary landfills, traders.
- Informal sector payment rates: approximate price/kg informal collectors are paid by junk shops, to benchmark incentive levels.
  - This must be considered per material (PET, PE, PP, PS, multilayer, etc.).
- Availability and certification status of treatment certificate providers in the target country.

Waste Stream Characterization
- Plastic packaging placed-on-market (POM) data – provided by member companies.
  - This information may be unavailable at the beginning of the EPR system, when a producer registry is not in place yet.
  - Granularity: per relevant material category.
- Estimated in-country collection rates (baseline from national waste statistics or independent research).
  - This information may be gathered from literature reviews, interviews with local authorities in charge of solid waste management, waste operators along the reverse chain and voluntary systems.
- Contamination rates per collection model and geography.
- Seasonal or campaign-driven volume fluctuations.

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Prerequisites Before Starting the Estimation | Step-by-Step Estimation Process

Step 1 – Define Collection Perimeter & Model

Next Step

Determine which operating model(s) will be used and their geographic coverage.

Decision Point	Model A (Reverse Chain)	Model B (Certificates)
PRO controls collection logistics	Yes – direct contracting	No
Traceability depth required	High – chain-of-custody documentation	High – certificate audit trail
Typical use case	Countries and materials with limited infrastructure	Countries and materials for which pre-existing waste operators control collection directly or indirectly
Main cost driver	Logistics + segregation + sorting + processing	Certificate unit price per ton
Informal sector engagement	Active – integrate into supply chain	Passive – may be used by operators but with limited influence of PRO over the process

In many ASEAN Member States, a hybrid approach might be necessary: for instance, Model A for urban cores where the PRO can build density, Model B to top up volumes in peri-urban or rural areas. Or Model A for new streams (typically low value plastics) and Model B for market-driven streams (like PET bottles).

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5.2.1 Guidance Note: Operating Cost Estimation

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Previous Step

Step 2 – Identify & Quantify Collection Methods

Next Step

For each geographical region in scope, identify the segregation/collection method and estimate the unit cost per ton collected.
The table below summarizes the main methods:

Collection Method	Typical Context	Segregation Quality	Key Cost Drivers
Kerbside separate bins (dual or multi-stream)	Urban, middle/high income	High	Bin provisioning, truck routes, driver wages, maintenance
Door-to-door bag collection(scheduled)	Dense urban/peri-urban	Medium-High	Labor (collectors), bags/ equipment, route planning
Drop-off points/ bring banks	Urban/suburban	Medium	Site rental, bin maintenance, transport to aggregation
Buy-back centers/ incentive hubs	Urban, informal-sector integration	High	Buy-back premium, facility operating costs, staff, fraud control
Informal sector formalization (network agreements)	All ASEAN urban typologies	Variable	Incentive premium above junk-shop rate, data platform, training. Focus on low value plastics.
Mixed MSW + downstream sorting (MRF)	Where source separation is absent	Low-Medium	Tipping fee or MRF gate fee + sorting cost
Retailer take-back (tertiary packaging)	Modern trade channels	High	Logistics from store, compaction, transport

For each method selected, record:

- Estimated annual volume (tons) per geography
- Unit collection cost (per ton or kg) – use local benchmarks or supplier quotations
- Expected contamination rate (%) – apply deduction to get net compliant tons
- Estimated material value recovered (per ton or kg) – to be netted against cost. The actual value that a PRO will be able to extract from the material is also influenced by its bargaining power. In Model B, full value may even be retained by the waste operator delivering the waste treatment certificate

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Previous Step | Step 3 – Cost Component Breakdown | Next Step

Decompose total collection cost into the following cost components. Apply to each collection method and geography. 1/4

3A Segregation & Primary Collection Costs 2/2

CAPEX/OPEX Equipment & consumables:
- Collection bins, bags, compactors, vehicles (CAPEX amortization or lease).
- Fuel, maintenance, insurance.

Note: These costs may be blended into the collection cost if collection service provider is supplying the equipment. Typically, the cost will then be expressed as a price per ton collected, to be paid by the PRO or the Individual System.

OPEX Labor:
- Drivers, loaders, sorters – include social charges and overtime.
- Route supervisors and data entry staff.

Note: These costs will be blended into the collection cost if collection service provider is supplying the equipment. Typically, the cost will then be expressed as a price per ton collected, to be paid by the PRO or the Individual System.

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Step 3 – Cost Component Breakdown

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Decompose total collection cost into the following cost components. Apply to each collection method and geography. 2/4

3A Segregation & Primary Collection Costs 2/2

OPEX Communication & awareness:
- Resident outreach (flyers, SMS campaigns, community liaisons) to drive source separation compliance.
- Retailer engagement for tertiary packaging take-back.

Note: Communication and awareness may also be budgeted outside of the collection cost as an independent cost item, in case it is not considered a direct operating cost.

3B Transportation & Treatment Costs

- Baling and densification (applies before transport to recycler).
- Transport from collection point to aggregation hub or MRF (cost per ton-km).
- MRF gate fee or tipping fee (cost per ton) – include for mixed-stream inputs.
- Manual or mechanical sorting costs at MRF or PRO-contracted sorting facility.
- Treatment process.
- Final disposal: non-recyclable fraction rejected at sort – landfill or energy recovery gate fee.

Note: Above costs may actually be included in the collection cost if charged by same service provider.

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Decompose total collection cost into the following cost components. Apply to each collection method and geography.

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3C Informal Sector Engagement Costs

The informal sector may collect much of the recyclable plastic in ASEAN cities. Integrating rather than displacing it is typically the most cost-effective strategy.

- Incentive premium above prevailing junk-shop buy-back rate – to redirect material to PRO-preferred offtakers (price per kg).
- Data reporting incentive: top-up payment (cash, mobile credit, voucher) for submission of weight tickets or digital records via app/SMS.
- Capacity building: micro-training on material sorting and safety (one-off or annual cost, amortized).
- Registration & onboarding: admin, cost of formalizing pickers and junk shops into the PRO network.
- Fraud/leakage provision: budget for verification audits and double-counting controls.

Key principle: The incentive level must exceed the opportunity cost of selling to the existing junk-shop network. Monitor periodically spot prices and adjust if material diversion is below target. The incentive is meant to get the informal sector to report its volume into the system, to direct its volume through identified and compliant offtakers and to collect additional volume, in particular low value plastics that currently do not get collected.

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3D Transport to Offtaker

- Primary transport: aggregation hub to offtaker/ recycler (cost per ton).
- Export logistics (if applicable): containerization, port charges, customs documentation, freight.
  - This assumes that export of output fraction is legally authorized
- Packaging and load quality requirements mandated by the offtaker (bale spec, moisture limits).

Note: This is likely embedded into the waste treatment company pricing, unless the EPR scheme is handling this process directly.

3E Waste Treatment Certificate Procurement Costs (Model B)

- Certificate unit price (cost per ton of certified collection + processing).
- Due diligence cost: auditing certificate providers, site visits, third-party verification (amortized over certified volume).

Note: PRO may ask for the certificate provider's input cost breakdown – understanding how they remunerate participants in the reverse chain: waste holders, waste pickers, etc.

3F Program Management & Overheads

- PRO staff time allocated to collection program (% FTE x salary).
- IT/data management: traceability platform, reporting dashboards, etc.
- Legal & compliance: EPR reporting, audits, registration costs if any.
- Allowance for technical studies, R&D.
- Contingency reserve: may be a regulatory requirement. In any case, applying a contingency reserve, for instance a 6-month operating cost, is a good practice considering the costs and material revenues fluctuation.

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Step 4 – Apply Material Value Offset (if made available to PRO)

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Material value recovered from plastic fractions reduces the net cost to the PRO. Apply the following logic:

- Log the revenue sharing outcome obtained from the waste operators by fraction (PET clear, HDPE natural, HDPE color, LDPE film, PP, PS, multilayer, etc.).
- Multiply by estimated recoverable yield (net of contamination and sorting losses) per ton collected.
- Net collection cost = Gross collection cost minus Material value recovered.

Note 1: In some periods or markets, commodity prices for certain fractions may go from positive to near zero or negative (i.e. the PRO must pay for offtake, even if the contracts assign part or all of fraction value to the PRO). It is best to budget conservatively by applying a low-commodity-price scenario.

Note 2: Depending on the operating model of the PRO or its bargaining power, part or all of the material value may be captured by waste operators and not shared with the PRO.

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Step 5 – Build the Cost Model

Next Step

Consolidate all components into a single cost model structure. The recommended structure is:

1/2

Cost Item	Annual Volume (t)	Unit Cost (per t)	Gross Cost	Notes
A. Segregation & Collection				
Equipment & consumables				May be blended in collection cost
Labor				May be blended in collection cost
Awareness & outreach				May be separated from collection cost
B. Aggregation & Sorting				
Transport (collection to MRF)				Per material. May be blended with waste treatment costs
MRF/sorting fee				May be blended with waste treatment costs
Waste treatment				Per material. May be blended with waste treatment costs

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Step 5 – Build the Cost Model

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Consolidate all components into a single cost model structure. The recommended structure is:

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Cost Item	Annual Volume (t)	Unit Cost (per t)	Gross Cost	Notes
C. Informal Sector Engagement				
Buy-back incentive premium				Per material
Data reporting incentive				Per material
Onboarding & capacity building				
D. Transport to Offtaker				
Domestic/export freight				

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Step 5 – Build the Cost Model

Consolidate all components into a single cost model structure. The recommended structure is:

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Cost Item	Annual Volume (t)	Unit Cost (per t)	Gross Cost	Notes
E. Treatment Certificate Procurement (Model B)				
Certificate production				Per material
Due diligence & audit				Per waste operator
F. Program Management				
Staff, IT, legal, overheads, contingency				
TOTAL GROSS COST				
Less: Material Value Recovered				
NET COST TO PRO (Amount/year)				**Per material**
NET COST PER TON				**Per material**

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Instructions for Table 1:
- Decide which Material Stream Segmentation you need and adjust the table accordingly.
- Fill in POM and Collection forecast in Table 1.
- Calculate Return Rate.

Material Stream	Estimated POM Volume (t/yr)	Collection Forecast Volume (t/yr)	Forecast Return Rate (%) RR = Collection/POM
PET bottles & trays (clear)			
HDPE bottles & containers			
PP rigid (cups, pots, trays, caps)			
LDPE/LLDPE flexible film & sachets			
Multilayer/multi-material flexible			
PS & other rigid			
[User stream 7]			
[User stream 8]			
TOTAL			

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Instructions for Table 2:
- For each relevant Material Stream as defined in Table 1, calculate Allocation Key 1 and Key 2, which are respectively the share of each Material Stream in the total collection and in the total POM
- Enter value for Key 3 (in %) based on your own estimation or discussion with members

Material Stream	Key 1: Collection Share (% of net collected volume)	Key 2: POM Share (% of POM volume)	Key 3: Custom (normalized %)
PET bottles & trays (clear)			
HDPE bottles & containers			
PP rigid (cups, pots, trays, caps)			
LDPE/LLDPE flexible film & sachets			
Multilayer/multi-material flexible			
PS & other rigid			
[User stream 7]			
[User stream 8]			
TOTAL	**100%**	**100%**	**100%**

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Instructions for Table 3: Enter the projected direct and indirect fixed costs per activity or items (example provided for illustration purpose only).

Cost Item Description	Category	Allocation	PET	HDPE	PP	LDPE	Multilayer	PS
A - DIRECT FIXED COSTS								
PET-specific collection bins	Infrastructure	DIRECT						
HDPE dedicated R&D project	Infrastructure	DIRECT						
Education campaign on flexible plastic	Infrastructure	DIRECT						
B - INDIRECT FIXED COSTS								
PRO governance & management staff	Governance	INDIRECT (Key 2)						
IT/data management platform	Governance	INDIRECT (Key 2)						
Legal, audit & EPR compliance	Governance	INDIRECT (Key 2)						
Consumer awareness campaigns	Communication	INDIRECT (Key 2)						
Monitoring & reporting system	Governance	INDIRECT (Key 1)						
TOTAL FIXED COSTS								

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Instructions for Table 4: Enter the projected variable costs per activity or items (example provided for illustration purpose only).

A - DIRECT VARIABLE COSTS				B - INDIRECT VARIABLE COSTS					
Cost Item Description	**Category**	**Allocation**	**Rate(cost/t)**	**PET**	**HDPE**	**PP**	**LDPE**	**Multilayer**	**PS**
Buy-back incentive - PET bottles	Collection	DIRECT							
Buy-back incentive - HDPE	Collection	DIRECT							
Informal sector premium - LDPE film	Collection	DIRECT							
Informal sector premium - Multilayer	Collection	DIRECT							
Film-to-recycler transport (LDPE)	Transport	DIRECT							
PET bale export freight	Transport	DIRECT							
Residue disposal - multilayer rejects	Disposal	DIRECT							
TOTAL VARIABLE COSTS (cost/year)									

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Instructions for Table 4: Enter the projected variable costs per activity or items (example provided for illustration purpose only).

A - DIRECT VARIABLE COSTS			B - INDIRECT VARIABLE COSTS						
Cost Item Description	**Category**	**Allocation**	**Rate(cost/t)**	**PET**	**HDPE**	**PP**	**LDPE**	**Multilayer**	**PS**
Kerbside collection routes (mixed)	Collection	INDIRECT (Key 1)							
Door-to-door bag collection	Collection	INDIRECT (Key 1)							
Aggregation hub operation	Collection	INDIRECT (Key 1)							
MRF/sorting gate fee	Sorting	INDIRECT (Key 1)							
Mixed transport to MRF	Transport	INDIRECT (Key 1)							
Informal sector data reporting bonus	Collection	INDIRECT (Key 1)							
TOTAL VARIABLE COSTS (cost/year)									

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Instructions for Table 5: Enter the projected raw material revenues.

Cost Item Description	Category	Allocation	Price (cost/t)	PET	HDPE	PP	LDPE	Multilayer	PS
Amount	Treatment	DIRECT							

Instructions for Table 6: Table 6 provides a summary and the total cost per stream and in aggregate

Cost Component	PET	HDPE	PP	LDPE	Multilayer	PS	All Materials Total
Net compliant volume (t/yr)	Treatment	DIRECT					
Fixed costs allocated (cost/yr)							
Variable costs allocated (cost/yr)							
Total gross cost (cost/yr)							
Material value recovered (cost/yr)							
NET COST TO PRO (cost/yr)							
NET COST PER TON (cost/t)							

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Put-On-Market (POM)	Collected & Treated (C/T)
a fee expressed per unit or per weight of plastic packaging placed on the market by producers/importers.	a fee expressed per weight of plastic packaging waste actually collected and treated. Each producer pays their proportional share of the total waste management cost.

Both models can be combined and either can incorporate a mix of fixed and variable cost components. Throughout this note, all examples refer exclusively to plastic packaging (typically but not exclusively rigid and flexible packaging from FMCG products sold in ASEAN Member States).

Before choosing a pricing model, the PRO must understand the cost pool to be recovered. Regardless of the model chosen, the following cost categories typically need to be funded by producer fees:

Cost Category	Typical Elements for Plastic Packaging PROs
Collection & Segregation	Kerbside bins, door-to-door bag schemes, buy-back centers, informal sector incentives
Transport	From collection points to sorting facilities and onward to offtakers/recyclers
Sorting & MRF	Separation of PET, HDPE, PP, LDPE film, multilayer; baling; residue handling
Recycling/Treatment/Disposal	Net cost after deducting material value recovered from sale of sorted fractions
Communication & Awareness	Consumer behavior campaigns, producer outreach, retailer engagement
Governance & Overheads	PRO staff, IT/data platforms, legal & compliance, R&D, provisions
Monitoring & Certification	Independent registry, third-party audits, certificate issuance and verification

Note: The mix between directly assignable costs and shared costs requiring allocation keys is a central design challenge for any PRO. See Section 5 for detailed guidance on cost allocation.

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Model A: Put-On-Market (POM) Pricing

Under the POM model, each producer or importer is invoiced a fee based on the quantity of plastic packaging they place on the national market, typically expressed as:

- Fee per kilogram of plastic packaging by material type (e.g. AMOUNT 0.35/kg for PET bottles, AMOUNT 0.80/kg for multilayer sachets), or
- Fee per unit of packaging for standardized formats (e.g. AMOUNT 0.002 per PET bottle).

The fee rate is set prospectively by the PRO, based on the projected total cost of collection and treatment divided by the total projected packaging placed on market. It is the most common model globally.

Fixed vs. Variable Cost Breakdown
The POM fee must factor in both fixed and variable costs which are blended into the EPR Fee:



Fixed Cost Component

Costs that do not vary with collected volume:
- PRO governance & overheads
- IT & data management platforms
- Legal, audit & compliance
- Communication & awareness campaigns



Variable Cost Component

Operational costs that scale with activity:
- Collection (kerbside, door-to-door, buy-back)
- Sorting & MRF gate fees
- Transport to offtaker
- Waste treatment cost
- Informal sector incentives & data bonuses

Hybrid structure: Alternatively, a PRO may choose to charge a fixed periodical membership/administration/retainer fee covering governance and overheads, and a separate variable per-kg POM fee covering operational costs effectively incurred during the period preceding the billing cycle. This improves PRO financial stability while adjusting invoiced amounts to actual operational activity. This model may be considered relevant during inception stage; however, it goes against the principle of “costing to target”, i.e. receiving sufficient funding to deploy estimated means necessary to achieve targets.

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Direct vs. Indirect Cost Application

Not all costs can be charged directly to a material or product. The distinction is critical to avoid cross-subsidization (see Section 6):



Direct Costs

Traceable to a specific material or product category. Assigned directly with no allocation key.

Plastic packaging examples:
- PET bottle-specific sorting line cost
- Buy-back premium for HDPE natural flakes
- Transport of LDPE film bales to film recycler



Indirect Costs

Shared across materials or producers. Requires an allocation key to distribute fairly.

Allocation key examples:
- Kerbside truck routes (mixed plastics): split by weight collected per fraction
- PRO staff overheads: split by POM market share or other suitable key
- Awareness campaigns: split by unit POM or other suitable key

Allocation keys must be documented and auditable

Key Characteristics

Fee trigger: The fee is charged around the time the product is placed on the market, not when the waste is collected. There is a timing gap between when the fee is paid and when collection actually occurs.

Producer obligation metric: Producers report POM data to their PRO (usually also required for EPR registry compliance), making data collection relatively straightforward.

PRO revenue certainty: The PRO collects its budget up front, providing financial stability to plan and fund operations.

Collection shortfalls: If the PRO collects less than planned, the POM fee may not fully reflect the true cost-per-ton managed. PRO needs to implement a fee revision mechanism to adjust it to the actual needs level (up or down).

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Model B: Collected & Treated (C/T) Pricing

Under the C/T model, producers are invoiced based on the actual weight of their attributed plastic packaging waste that has been collected and processed. The fee is expressed as an amount per ton or of waste effectively managed during the period preceding the billing.

Each producer's share of the total bill is determined by their market share within the PRO of packaging placed on market for the period (or estimated based on previous year data), applied to the verified total volume of waste managed. The model can operate under both operating models:

Model A PROs (own reverse chain): the PRO invoices producers per ton of waste it has physically collected and sorted through its own contracted network.

Model B PROs (certificate purchase): the PRO procures certificates from accredited recyclers/MRFs and invoices producers their market-share proportion of the total certified tonnage.

The C/T fee is charged after the fact (ex-post) and based on a standard price per ton agreed with certified operators. In case a standard price is not agreed up front, and if purchase costs fluctuate a great deal, the actual cost-per-ton invoiced to producers may differ from initial estimates.

Fixed vs. Variable Cost Breakdown

The C/T fee must factor both fixed and variable costs which are blended into the EPR Fee:



Fixed Cost Component

Costs that do not vary with collected volume:
- PRO governance & overheads
- IT & data management platforms
- Legal, audit & compliance
- Communication & awareness campaigns



Variable Cost Component

Operational costs that scale with activity:
- Collection (kerbside, door-to-door, buy-back)
- Sorting & MRF gate fees
- Transport to offtaker
- Waste treatment cost
- Informal sector incentives & data bonuses

Hybrid structure: PROs applying the C/T Fee model may charge a fixed membership or registry fee alongside the per-ton variable fee, to ensure baseline financial coverage during periods of low collection. The C/T model may be criticized as it does not necessarily entail producer-funding in proportion of the regulatory obligation, but only in proportion of the actual activity, which may sit below targets.

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Direct vs. Indirect Cost Application

Because fees are charged per ton of waste managed, direct costs attribution is more visibly aligned with the actual waste stream:



Direct Costs

Traceable to a specific material or product category. Assigned directly with no allocation key.

Plastic packaging examples:
- PET bottle-specific sorting line cost
- Buy-back premium for HDPE natural flakes
- Transport of LDPE film bales to film recycler



Indirect Costs

Shared across materials or producers. Require an allocation key to distribute fairly.

Allocation key examples:
- Kerbside truck routes (mixed plastics): split by weight collected per fraction
- PRO staff overheads: split by POM market share or other suitable key
- Awareness campaigns: split by unit POM or other suitable key

Allocation keys must be documented and auditable

Key Characteristics

Fee trigger: The fee is charged after waste has been collected and treated - the timing aligns with actual collection activity, not POM events.

Performance alignment: The PRO's revenue depends on collection performance, creating a strong operational incentive to maximize recovery. However, oversight is required to ensure that a PRO would not under-collect to keep costs charged to producers low.

Cash flow risk: The PRO must pre-finance collection operations before recovering fees, unless minimum volume commitments or advance payments are negotiated.

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Comparative Analysis: POM vs. C/T

The table below summarizes the key differences, advantages and limitations of each model in the context of plastic packaging EPR:

Criterion	Put-On-Market (POM)	Collected & Treated (C/T)
Predictability of revenue for PRO	**High** Fee collected up front, regardless of collection outcomes.	**Low-Medium** Revenue depends on actual collection volume, creating cashflow risk.
Ease of administration	**Simple** Producers report POM data (already required for most EPR registries).	**Complex** Requires calculating and maintaining Producers market share per stream + additional allocation keys to be run every billing cycle.
Incentive to improve collection performance	**Medium** PRO collects the same fee regardless of whether collection targets are met. On the other hand, PRO may have upfront funding to develop programs.	**Medium** The PRO only earns fees for waste actually managed. Strong operational incentive to collect more for for-profit PRO. Low incentive for some Producers to collect more.
Polluter-pays principle alignment	**Strong** Each producer pays in proportion to what they place on market, and may be charged in accordance with the targets.	**Strong** Producer pays for whatever is collected and treated, which may exceed regulatory targets.
Producer acceptance/transparency	**High** Producers understand cost per kg of packaging sold. Easy for producers to forecast and budget, since it is based on their own sales budget.	**Variable** Fee depends on collection outcomes producers cannot fully control. More difficult for producers to forecast and budget.

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The Imperative for Unbiased Pricing: Avoiding Cross-Subsidization

A foundational principle of any EPR fee model is that each producer should pay a fee that reflects the true cost of managing the packaging they place on the market. When this is not the case, cross-subsidization occurs: some producers effectively subsidize others, distorting market incentives and undermining the environmental integrity of the EPR scheme.

What is Cross-Subsidization?

Cross-subsidization occurs when the fee charged for one material or product category is systematically higher or lower than the actual cost of collecting and treating that category, causing the surplus or shortfall to be absorbed by other categories.

In plastic packaging, the risk is high because collection costs vary dramatically across material types:
- Rigid, high-value fractions (PET bottles, HDPE natural) are cheap to collect and have good material value - their real net cost is low.
- Flexible films, sachets, and multilayer packaging are expensive to collect (low density, contamination-prone, low or negative material value) - their real net cost is high.

A flat or poorly differentiated POM fee rate systematically undercharges producers of hard-to-manage packaging and overcharges producers of easy-to-manage packaging. This is illustrated in the table below:

Plastic Material	Real Collection & Treatment Cost (amount/t)	Average Fee Charged if Flat Rate	Cross-Subsidy Direction
PET bottles (clear)	180	280	↓ Overpays - subsidizes harder fractions
HDPE bottles (natural)	210	280	↓ Overpays slightly
PP rigid trays & cups	270	280	≈ Roughly fair
LDPE/LLDPE flexible film (sachets, wraps)	480	280	↑ Underpays - subsidized by easier fractions
Multilayer/multi-material (e.g. stand-up pouches)	600+	280	↑↑ Heavily underpays - largest cross-subsidy risk

How to Prevent Cross-Subsidization?

Note: the above table is for illustration only. Actual costs depend on the country context, operating model and commodity markets. PROs must build material-specific cost models to set differentiated rates.

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The Imperative for Unbiased Pricing: Avoiding Cross-Subsidization

A foundational principle of any EPR fee model is that each producer should pay a fee that reflects the true cost of managing the packaging they place on the market. When this is not the case, cross-subsidization occurs: some producers effectively subsidies others, distorting market incentives and undermining the environmental integrity of the EPR scheme.

What is Cross-Subsidization?

How to Prevent Cross-Subsidization? 1/2

Apply Material-Differentiated Fee Rates

Set distinct fee rates for each plastic packaging material category:
- PET (bottles, trays)
- HDPE (bottles, containers - natural vs. colored separately if feasible)
- PP (rigid: cups, pots, trays; caps & closures)
- LDPE/LLDPE (flexible film, shrink wrap, sachets)
- Multilayer/multi-material flexible packaging
- PS and other polymers

Each rate must be derived from a material-specific cost model, not from a blended average.

Use Defensible, Auditable Allocation Keys

For indirect costs that cannot be directly assigned, use allocation keys that have a logical connection to cost causation:
- Weight collected per fraction: most appropriate for operational costs (sorting, transport).
- POM weight or unit volume per fraction: most appropriate for awareness and governance overheads.
- Market share: appropriate for distributing PRO-wide fixed costs across producers.

Document, publish, and seek independent validation of all allocation keys. Avoid allocation keys that produce outcomes convenient for large producers at the expense of accurate cost attribution.

Annual Review

Fee rates should be reviewed at least annually:
- Compare actual collection cost per ton per fraction against the fee rates charged
- Identify any materials where the actual cost diverges by more than 10–15% from the rate - consider adjusting the rate or the allocation key
- Where commodity prices shift significantly (e.g. LDPE film price collapse), reassess whether the material value offset in the fee model remains accurate

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The Imperative for Unbiased Pricing: Avoiding Cross-Subsidization

What is Cross-Subsidization? | How to Prevent Cross-Subsidization? 2/2

Mixed and Hybrid Models

In practice, some PROs operate a hybrid structure combining elements of both models. The table below illustrates common configurations:

Hybrid Structure	Fixed Component	Variable Component
Membership + POM fee	Annual membership fee (covers PRO governance & overheads)	Per-kg POM fee by material (covers operations)
Membership + C/T fee	Annual registration fee (covers baseline PRO costs)	Per-ton C/T fee (covers collection & treatment)
POM advance + C/T reconciliation	Advance POM-based payment at start of year (based on POM forecast)	Year-end reconciliation against actual C/T volume; surplus refunded or deficit invoiced

Membership + C/T Fee is particularly relevant for “outcome-based” treatment certificate markets (where certificate prices are freely negotiated between buyers and sellers) where the PRO buys certificates on behalf of its members. Price is determined by supply and demand for verified tons. This introduces bargaining-power risk that a full POM model may not be able to mitigate.

Decision Guidance: Choosing the Right Model

The choice between POM, C/T, or a hybrid should be driven by the regulatory framework, the maturity of the collection infrastructure and the capacity of producers and the PRO to administer the chosen model:

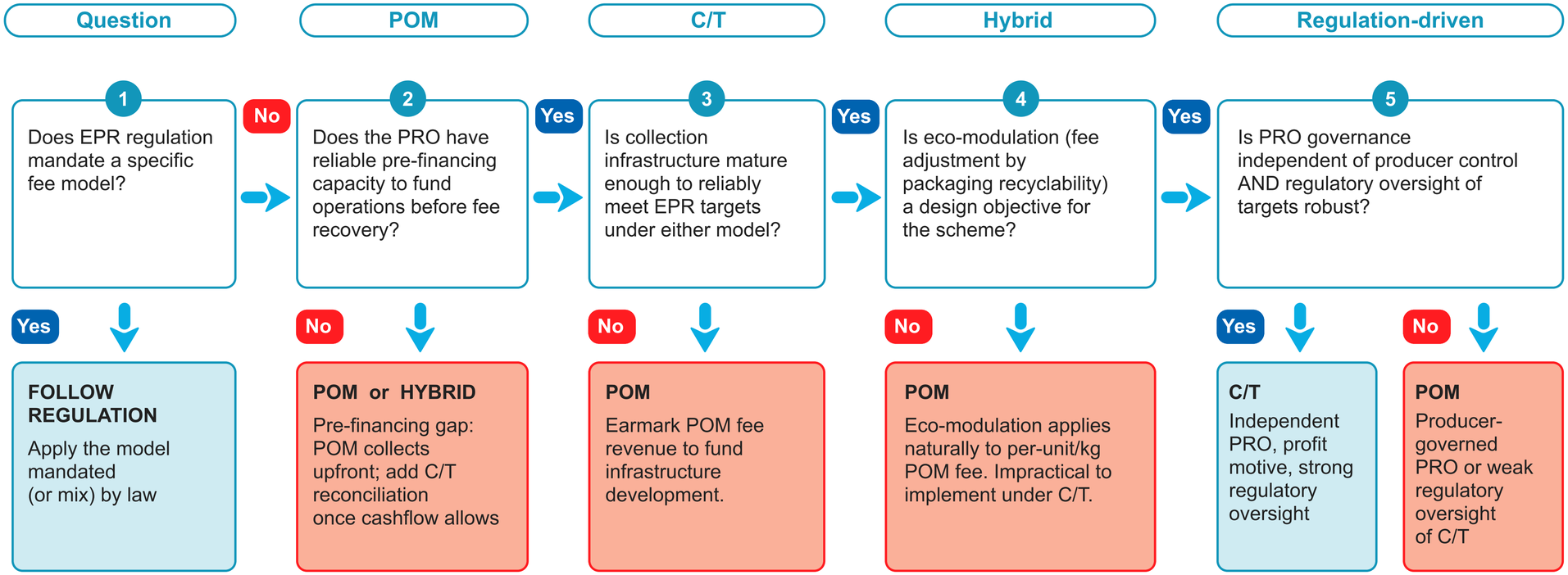
Factor	Favors POM	Favors C/T
Collection infrastructure maturity	Low or developing - targets not yet reliably met	Established – Volume of activity easily predictable
PRO cash flow needs	PRO needs upfront revenue certainty	PRO can pre-finance and recover post-collection
Regulatory preference	Regulator prioritizes simplicity and coverage of obligation costs	Regulator prioritizes cost allocation in proportion to actual activity

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5.2.4 Decision Tree: Put-On-Market (POM) vs. Collected & Treated (C/T), Fee Model for Plastic Packaging EPR

Decision tree | Key Principles

Note: Follow questions left to right. The first applicable exit leads to a recommended model.



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5.2.4 Decision Tree: Put-On-Market (POM) vs. Collected & Treated (C/T), Fee Model for Plastic Packaging EPR

Decision tree | Key Principles

Key principles:

1. Chain-of-custody and traceability are compliance requirements under both models - they are not a discriminating factor.
2. Collection targets are binding under both POM and C/T - the model does not alter the regulatory obligation.
3. A producer-governed PRO under C/T may be incentivized to collect less (lower costs = lower fees to producers), whereas an independent PRO under C/T is incentivized to collect more (more tons = more revenue).
4. POM declaration data is a prerequisite for both models - even under C/T, each producer's share of the total waste management cost is apportioned using their relative POM volume as the allocation key. POM data quality is therefore not a discriminating factor between models.
5. Eco-modulation (adjusting fees by packaging recyclability rating) is a natural fit for POM: the modulation bonus/malus is applied directly to the per-unit or per-kg fee at the point of placing on market. Under C/T, there is no equivalent natural fee hook, making eco-modulation structurally difficult to implement.
6. Regardless of model, fee rates must be differentiated by material (PET, HDPE, PP, LDPE film, multilayer) to avoid cross-subsidization.

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5.2.5 Template: Put-On-Market Fee Calculator

Table 1 - Summary: Net Cost per Ton per Material Stream | Table 2 - Target Return Rate (%) | Table - POM Fee (cost per ton POM and per kg)

Instructions for Table 1: Retrieve the complete collected /treated (C/T) cost from Table 5 - PRO Cost Estimation Tool

Cost Component	PET	HDPE	PP	LDPE	Multilayer	PS	All Material Total
Net compliant volume (t/yr)							
Fixed costs allocated (cost/yr)							
Variable costs allocated (cost/yr)							
Total gross cost (cost/yr)							
Material value recovered (cost/yr)							
NET COST TO PRO (cost/yr)							
NET COST PER TON (cost/t)							

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5.2.5 Template: Put-On-Market Fee Calculator

Table 1 - Summary: Net Cost per Ton per Material Stream | Table 2 - Target Return Rate (%) | Table 3 - POM Fee (cost per ton POM and per kg)

Instructions for Table 2: Enter the projected return rate from Table 1 of PRO Cost Estimation Tool or enter a value per stream (%).

Table 2

Parameter	PET	HDPE	PP	LDPE film	Multilayer	PS	Stream 7	Stream 8
Target return rate (%)								

Instructions for Table 3: Table 3 displays the POM Fee by applying the return rate to the Net Cost per ton. Enter the available values.

Table 3

Parameter	PET	HDPE	PP	LDPE film	Multilayer	PS	Blended rate
POM fee							

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5.2.6 Template: Collected/Treated C/T Fee Calculator

Note: Input steams, figures and items are for illustrative purpose only. C/T = collected/treated.

Table 1 - Inputs from PRO Cost Estimation Tool (Tables 1, 3 and 4) | Table 2 - Collection and Treatment Forecast | Table 3 - Safety Buffer (Fixed Cost Component Only) | Table 4 - Total Costs

Instructions for Table 1: Use tables 1, 3 and 4 of the PRO Cost Estimation Tool to fill in Table 1 in C/T Fee Calculator

Line Item	PET	HDPE	PP	LDPE	Multilayer	PS	Total
Fixed cost pool per stream (cost/yr)							
Variable cost rate (cost/t C/T)							
Material value recovered (cost/t)							
Net variable rate (cost/t) = variable rate − material value							
Total PRO-member POM volume (t/yr) [for apportionment only]							

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5.2.6 Template: Collected/Treated C/T Fee Calculator

Note: Input steams, figures and items are for illustrative purpose only. C/T = collected/treated.

Table 1 - Inputs from PRO Cost Estimation Tool (Tables 1, 3 and 4) | Table 2 - Collection and Treatment Forecast | Table 3 - Safety Buffer (Fixed Cost Component Only) | Table 4 - Total Costs

Table 2

Instructions for Table 2: Insert collection & treatment forecast for each Material Stream

Parameter	PET	HDPE	PP	LDPE	Multilayer	PS	Total
Forecast C/T volume (t/y)							
Implied C/T rate (C/T ÷ POM)							

Table 3

Instructions for Table 3: Insert a safety buffer (%) for each Material Stream to allow for unforeseen fixed cost variation

Parameter	PET	HDPE	PP	LDPE	Multilayer	PS	Total
Safety buffer on fixed cost (%)							

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5.2.6 Template: Collected/Treated C/T Fee Calculator

Note: Input steams, figures and items are for illustrative purpose only. C/T = collected/treated.

Table 1 - Inputs from PRO Cost Estimation Tool (Tables 1, 3 and 4) | Table 2 - Collection and Treatment Forecast | Table 3 - Safety Buffer (Fixed Cost Component Only) | **Table 4 - Total Costs**

Instructions for Table 4: Table 4 retrieves content from Tables 1, 2 and 3 to provide a total cost to be allocated.

Cost Component	PET	HDPE	PP	LDPE	Multilayer	PS	Total
Fixed cost (cost/yr)							
Variable cost (cost/yr)							
Buffer amount (cost/yr) = fixed cost × buffer %							
Total cost incl. buffer (cost/yr)							

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5.2.6 Template: Collected/Treated C/T Fee Calculator

Note: Input steams, figures and items are for illustrative purpose only. C/T = collected/treated.

Table 5 - C/T Fee Rate (cost per ton C&T) | Table 6 – Total Cost per Material Stream (from CT Fee Calculator Table 4) | Table 7 – Costs per PRO member – Per Material Stream and Total

Instructions for Table 5: Table 5 provides the applicable C/T price for each Material Stream.

Fee Component	PET	HDPE	PP	LDPE	Multilayer	PS	Blended
Fixed fee component (cost/t) = (fixed cost + buffer) ÷ volume collected							
Variable fee component (cost/t) = net variable rate							
TOTAL C/T FEE RATE (cost/t)							
C/T fee rate per Ton (cost/t)							

Apportionment of Costs to PRO members

Note: PER-STREAM SHARE PRINCIPLE: Each producer is charged for each Material Stream in proportion of their market share in the PRO = [Producer Material Stream POM ÷ Total Material Stream POM] x Total Material Stream Cost.
POM share is calculated stream by stream - not as an aggregate of all streams. This prevents cross-subsidization between streams.

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5.2.6 Template: Collected/Treated C/T Fee Calculator

Note: Input steams, figures and items are for illustrative purpose only. C/T = collected/treated.

Table 5 - C/T Fee Rate (cost per ton C&T) | Table 6 – Total Cost per Material Stream (from CT Fee Calculator Table 4) | Table 7 – Costs per PRO member – Per Material Stream and Total

Table 6

Instructions for Table 6: Retrieve Total Cost per Material Stream from Table 4.

Cost Pool	PET	HDPE	PP	LDPE	Multilayer	PS	Total
Total cost incl. buffer (cost/yr)							

Table 7

Instructions for Table 7:
- Retrieve from each producer their respective POM per material.
- Calculate producer market shares in the PRO by dividing their POM per Material Stream by the Total POM of each Material Stream.
- Calculate the total cost per producer per Material Stream and in Total.

Producer	PET			HDPE			PP			LDPE			Multilayer			PS	TOTAL		
	POM (t)	Share	Bill	POM (t)	Share	Bill	POM (t)	Share	Bill	POM (t)	Share	Bill	POM (t)	Share	Bill	POM (t)	Share	Share	Bill
Producer A																			
Producer B																			
Producer C																			
Producer D																			
Producer E																			
TOTAL		100%			100%			100%			100%			100%			100%		

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5.2.7 Template: PRO 3-Year Budget Template

Table 1 - Investments & Amortization Schedule | Table 2 - Profit & Loss Budget: 3-Year

Instructions for Table 1: Enter each planned capital investment. Annual straight-line amortization is calculated for Years 1–3.
Copy the TOTAL row (Years 1, 2, 3) into the P&L Budget Amortization line.

Asset Name	Description	Asset Category	Investment Amount	Acquisition Date	Amort. Period (yrs)	Year 1 Amort.	Year 2 Amort.	Year 3 Amort.	Residual Value Yr 3	Notes
[Asset 1]										
[Asset 2]										
[Asset 3]										
[Asset 4]										
[Asset 5]										
[…]										
TOTAL ANNUAL AMORTISATION CHARGE										

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5.2.7 Template: PRO 3-Year Budget Template

Table 1 - Investments & Amortization Schedule | **Table 2 - Profit & Loss Budget: 3-Year**

Instructions for Table 2: Fill in the Profit and Loss (P&L) forecast using the cost tools results and other working assumptions where needed.

OPERATING REVENUE	OPERATING COSTS	FINANCIAL INCOME/(EXPENSE)	MEMO - UNIT COST INDICATORS

Line item	Prior Year Actual	Year 1 Budget	Year 2 Budget	Year 3 Budget	Note
EPR fees from producers					
Material value - all streams					
Membership fees					
Other operating income					
TOTAL OPERATING REVENUE					

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Table 1 - Investments & Amortization Schedule | **Table 2 - Profit & Loss Budget: 3-Year**

Instructions for Table 2: Fill in the Profit and Loss (P&L) forecast using the cost tools results and other working assumptions where needed.

OPERATING REVENUE	OPERATING COSTS 1/4		FINANCIAL INCOME/(EXPENSE)	MEMO - UNIT COST INDICATORS
	Direct Fixed Costs	Direct Variable Costs	Indirect Fixed Costs	Indirect Variable Costs

Line item	Prior Year Actual	Year 1 Budget	Year 2 Budget	Year 3 Budget	Note
Infrastructure & equipment lease/rental					
Other direct fixed costs					
Sub-total: Direct Fixed Costs					

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Table 1 - Investments & Amortization Schedule | **Table 2 - Profit & Loss Budget: 3-Year**

Instructions for Table 2: Fill in the Profit and Loss (P&L) forecast using the cost tools results and other working assumptions where needed.

OPERATING REVENUE	OPERATING COSTS 2/4		FINANCIAL INCOME/(EXPENSE)	MEMO - UNIT COST INDICATORS
Direct Fixed Costs	Direct Variable Costs		Indirect Fixed Costs	Indirect Variable Costs

Line item	Prior Year Actual	Year 1 Budget	Year 2 Budget	Year 3 Budget	Note
Collection & buy-back costs					
Transport to offtaker					
Waste treatment costs/treatment certificates					
Informal sector incentives					
Other direct variable costs					
Sub-total: Direct Variable Costs					

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Table 1 - Investments & Amortization Schedule | **Table 2 - Profit & Loss Budget: 3-Year**

Instructions for Table 2: Fill in the Profit and Loss (P&L) forecast using the cost tools results and other working assumptions where needed.

OPERATING REVENUE	OPERATING COSTS 3/4		FINANCIAL INCOME/(EXPENSE)	MEMO - UNIT COST INDICATORS
	Direct Fixed Costs	Direct Variable Costs	Indirect Fixed Costs	Indirect Variable Costs

Line item	Prior Year Actual	Year 1 Budget	Year 2 Budget	Year 3 Budget	Note
Salaries & wages					
Payroll taxes & social charges					
Office & facilities					
Utilities					
IT & data management					
Legal fees					
Insurance					
Accounting fees					
Audit fees - financial					
Operations or EPR compliance audit fees					
Financial audit fees					
Registry & EPR scheme fees					
Communication (phone, internet, postage)					
Travel, lodging & meals					
Education, awareness & outreach					
Amortization [copy from INVESTMENTS total row]					
Accruals & provisions					
Non-income taxes & duties					
Other indirect fixed costs					
Sub-total: Indirect Fixed Costs					

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5.2.7 Template: PRO 3-Year Budget Template

Table 1 - Investments & Amortization Schedule | **Table 2 - Profit & Loss Budget: 3-Year**

Instructions for Table 2: Fill in the Profit and Loss (P&L) forecast using the cost tools results and other working assumptions where needed.

OPERATING REVENUE	OPERATING COSTS 4/4		FINANCIAL INCOME/(EXPENSE)	MEMO - UNIT COST INDICATORS
	Direct Fixed Costs	Direct Variable Costs	Indirect Fixed Costs	Indirect Variable Costs

Line item	Prior Year Actual	Year 1 Budget	Year 2 Budget	Year 3 Budget	Note
Consumer awareness & outreach campaigns					
Monitoring & data reporting					
Technical studies/R&D					
Other indirect variable costs					
Sub-total: Indirect Variable Costs					
TOTAL OPERATING COSTS					
OPERATING RESULT (Revenue minus Operating Costs)					

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5.2.7 Template: PRO 3-Year Budget Template

Table 1 - Investments & Amortization Schedule | **Table 2 - Profit & Loss Budget: 3-Year**

Instructions for Table 2: Fill in the Profit and Loss (P&L) forecast using the cost tools results and other working assumptions where needed.

OPERATING REVENUE	OPERATING COSTS	FINANCIAL INCOME/(EXPENSE)	MEMO - UNIT COST INDICATORS

Line item	Prior Year Actual	Year 1 Budget	Year 2 Budget	Year 3 Budget	Note
Interest income on reserves					
Interest expense/bank charges					
Foreign exchange gains/(losses)					
Other financial income/(expense)					
NET FINANCIAL INCOME/(EXPENSE)					
NET RESULT BEFORE TAX					
Income tax/corporate tax					
NET RESULT					

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5.2.7 Template: PRO 3-Year Budget Template

Table 1 - Investments & Amortization Schedule | **Table 2 - Profit & Loss Budget: 3-Year**

Instructions for Table 2: Fill in the Profit and Loss (P&L) forecast using the cost tools results and other working assumptions where needed.

OPERATING REVENUE	OPERATING COSTS	FINANCIAL INCOME/(EXPENSE)	MEMO - UNIT COST INDICATORS

Line item	Prior Year Actual	Year 1 Budget	Year 2 Budget	Year 3 Budget	Note
Total C&T volume (t/yr) **[manual entry]**					
Total POM volume (t/yr) **[manual entry]**					
Operating cost per ton C&T					
Operating cost per kg POM					

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5.2.8 Factsheet: Eco-Modulation Criteria Commonly Used in Plastic Packaging EPR

Criterion	Environmental Basis	Measurability	Action-forcing capacity
Recyclability (overall)	**High** Directly determines whether material enters circular economy	**Moderate** Requires recyclability assessment methodology agreed with recyclers/sorters	**High** If technically feasible alternatives exist
Polymer type (e.g., clear vs. colored PET, PVC presence)	**High** Polymer choice determines sorting yield and recyclate quality	**High** Polymer identity is verifiable by declaration and audit	**High** For most packaging categories
NIR sortability (pigmentation, carbon black)	**High** Non-NIR-detectable formats cannot be sorted at scale	**High** NIR transmission is testable at product level	**High** Alternatives exist across all major categories
Post Consumer Recycled content (PCR)	**High** Directly stimulates demand for recyclate, closing the loop	**High** Certifiable via EN 15343, GRS, or equivalent chain-of-custody standards	**Moderate** Depends on PCR availability and food-contact regulatory requirements
Labels and sleeves (detachability/compatibility)	**Moderate** Labels and sleeves that contaminate the polymer stream reduce recyclate value	**High** Label type and material are product specifications	**High** Design change is straightforward for most applications
Multi-material/ multi-layer construction	**High** Prevents material separation and recyclability	**Moderate** May require third-party recyclability testing	**Low to moderate** Barrier requirements may limit alternatives in some product categories (e.g. perishable food)
Packaging weight/light-weighting	**Moderate** Reduces material input but can reduce recyclability if over-optimized	**High** Declared weight is the basis of POM fees	**High** Economic incentive already exists independently
Presence of hazardous additives (phthalates, PFAS, flame retardants)	**High** Contaminants in recyclate stream reduce value and pose health risks	**Moderate** Additive declaration required; auditable via chemical analysis	**High** Reformulation feasible for most packaging applications

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5.2.9 Fact Sheet: Effective Eco-Modulation Criteria

The effectiveness of Eco-modulation depends critically on the quality of the criteria selected. A well-designed criterion must satisfy the four conditions simultaneously:

Condition	What It Requires
Impact on producer's Profit & Loss Statement (P&L)	The fee differential must be large enough to register as a material line item in the producer's cost analysis. For commodity packaged goods, negligible modulation differentials are unlikely to generate design investment. The criterion must translate into a visible cost difference at the product or Stock-keeping Unit (SKU) level.
Action-forcing	The producer must have a technically feasible and commercially viable pathway to achieve the better fee category. A criterion that is impossible to meet for structural reasons (e.g., barrier performance requirements that preclude mono-material construction) will not achieve design change, although it may generate additional revenues for the PRO. Criteria must be accompanied by a clear technical specification of what qualifies as compliant.
Environmental Relevance	The criterion must reflect a genuine environmental or resource benefit. It must be grounded in lifecycle assessment (LCA) evidence, recycling system performance data, or demonstrable impacts on recycle quality. Criteria that do not withstand environmental scrutiny will be challenged by producers and undermine the legitimacy of the scheme.
Demonstrability and Measurability	Producers must be able to declare compliance based on verifiable product characteristics. The criterion must be expressed in terms of measurable parameters (e.g., NIR-detectable polymer, recycled content percentage certified by a recognized standard, absence of specific additive classes), not subjective assessments. PROs and competent authorities must be able to audit declarations.

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5.2.10 Factsheet: Time-sensitivity of Eco-Modulation Criteria

A well-designed criterion may have a deliberately limited lifespan. If a modulation criterion successfully drives the target design change across the majority of the market, it loses its behavioral utility - the market has moved, and continuing to apply the criterion would simply not drive any further improvement.

The governance framework should explicitly anticipate criterion retirement. A criterion that achieves greater than 80-90% market conversion can be retired and replaced by a new, more demanding criterion that drives the next frontier of improvement.

Example: The Lifecycle of the Opaque PET Criterion

The criterion penalizing opaque/carbon-black PET bottles (which are invisible to NIR sorters) was introduced in several EU schemes when opaque PET represented a significant fraction of the plastic bottle market. As the market converts to detectable alternatives, the criterion will eventually apply to a marginal residual fraction and can be retired because its job is done. To continue driving improvement, a more demanding criterion can be introduced – for instance an increased minimum recycled content threshold – beyond regulatory requirement.

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5.2.11 Factsheet: Penalty, Reward, or Both? Designing the Eco-Modulation Direction

Eco-Modulation Direction	Mechanism	Advantages	Disadvantages
Penalty-only (malus-only)	The system levies surcharges on non-compliant or environmentally problematic packaging, while leaving the base fee unchanged for compliant packaging	• **Financial stability:** The PRO's aggregate fee income is higher in a penalty-only system than in a neutral baseline, since malus revenue is additive. This provides a financial buffer that can be used to fund system investments, producer support programs, or reduced fees in future periods as market conversion occurs. • **Simplicity:** Only one modulation category needs to be defined and monitored (the non-compliant category). This reduces administrative complexity and the risk of classification disputes.	• **Signal clarity:** The message to producers is unambiguous - the packaging as currently designed carries a cost premium that can be eliminated by redesign. • **Avoidance of perverse incentives:** Bonus-based fee modulation systems may encourage producers to seek qualification for lower fee categories without delivering meaningful environmental improvements, for example through overly broad or self-serving claims regarding recyclability. In contrast, penalty-based systems focus attention on avoiding higher fees, thereby encouraging compliance with clearly defined environmental performance criteria.
Bonus-penalty (malus-bonus)	Producers of highly circular packaging pay fees below the base rate and producers of non-circular packaging pay above the base rate	• **Positive market narrative:** Producers who achieve the bonus category can communicate this to retailers and consumers, reinforcing commercial value beyond the direct fee saving. • **Graduated incentive:** By creating both a floor (malus) and a ceiling (bonus), the system rewards producers who exceed baseline recyclability, not just those who avoid the worst formats	• **Complex to manage:** Need to develop up to 3 prices per product or material and to forecast the POM mix across the 3 categories. • **Financial stability:** The PRO runs the risk of insufficient income if the penalty rate is not conservatively calculated to accommodate the bonus-driven lower income and if the product mix is not as expected.
Bonus only	Producers of highly circular packaging pay fees below the base rate	• **Positive market narrative:** Producers who achieve the bonus category can communicate this to retailers and consumers, reinforcing commercial value beyond the direct fee saving.	• **Financial stability:** The PRO runs the risk of insufficient income if the base rate is not conservatively calculated to accommodate the bonus-driven lower income and if the product mix is not as expected.

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5.2.12 Factsheet: Eco-Modulation Examples in the EU

Country (PRO)	Examples of modulation "criteria/categories"	Observed success metrics[5]
Belgium (Fostplus)	**Different fee levels for different colors** of PET bottles according to their recyclability (transparent PET lower than colored PET)	The share of colorless (NIR-detectable) PET bottles in the Belgian market has grown since differentiated fee levels were introduced, correlating with both legislative signals and PRO fee differentials.
Sweden (NPA)	**Three Fee levels** - (**green** for packaging fully compatible with material recycling, **yellow** for limited recyclability and some quality loss in recycling process, **red** for low or no recyclability and significant quality loss) determined by material, coloring, prints, and presence of labels and sleeves.	Producers enjoying lower fees for high-recyclability formats have been documented switching packaging materials in multiple consumer goods categories, particularly in the beverage and personal care segments.
France (CITEO)	• **Bonus** is applied for certain materials of good recyclability, recycled content and awareness raising. • **Malus** is applied for other materials, opaque PET, reinforced paper, PET containing aluminum PVC or silicone.	Since the introduction of bonus-malus modulation, the proportion of plastic packaging declared in the 'recyclable' category has increased year-on-year. CITEO reports a measurable reduction in the share of opaque PET bottles (a historically problematic format) in fee declarations, consistent with producer reformulation activity.
The Netherlands (Verpact)	**Discounts** determined via a decision tree, taking the following into account: dimension, recycled content, mono-material, color (colorless and white vs. colored), additives and presence of labels and sleeves.	Recycled PET content in bottles reached 51% in 2024, already exceeding the EU requirement of 25% that applies from 2025 onward.

[5]Quantified outcomes from Eco-modulation schemes remain partially commercially confidential, and comprehensive longitudinal datasets are still limited given the relative novelty of robust modulation schemes.

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5.2.13 Guidance Note: Eco-Modulation Implementation Phases

Phase 1: Baseline and Architecture | **Phase 2: First Criteria - High-Impact, High-Measurability** | **Phase 3: Expanded Criteria**

Before any modulation criteria are introduced, the scheme requires a clear baseline:

POM estimate:
A baseline of the packaging types and materials currently placed on the market, broken down to a sufficient level of detail to classify packaging by potential modulation criteria.

Recyclability assessment methodology:
Agreement with the recycling and sorting sector on a common methodology for assessing recyclability - the foundation for the most important criteria.

Fee architecture design:
Agreement on the fee structure (bonus-only, malus-only, or bonus-malus), base fee level, and maximum amplitude range.

Legal and governance framework:
Adoption of the regulatory text authorizing the competent authority to set and revise modulation criteria and mandating PRO compliance with common modulation coefficients. Competition law has to be taken into consideration, and a ruling may be required to allow some forms of modulation.

Phase	Focus	Recommended Amplitude
Phase 1	Baseline, methodology, governance, legal framework	N/A - no modulation yet
Phase 2	2-3 high-impact, unambiguous criteria (carbon black, PVC, clear non-recyclable formats)	Test and learn. Moderate to high amplitude
Phase 3	Expanded criteria set: recycled content bonus, label compatibility, recyclability, criterion retirement	High amplitude

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5.2.13 Guidance Note: Eco-Modulation Implementation Phases

Phase 1: Baseline and Architecture | **Phase 2: First Criteria - High-Impact, High-Measurability** | **Phase 3: Expanded Criteria**

The first generation of criteria should target formats that are unambiguously problematic, clearly measurable and have a viable reformulation pathway. Recommended priority criteria for plastic packaging are:

Carbon black and non-NIR-detectable pigmentation:
Strong environmental basis, easily measurable (NIR transmission test on packaging samples), feasible technical alternatives exist for virtually all categories.

PVC presence in packaging:
Documented contamination issue for most recycling streams; straightforward material substitution available in most applications.

Clearly non-recyclable multi-layer formats
(e.g., metallized laminates) in high-volume, low-necessity applications: where the multi-material construction serves primarily aesthetic rather than functional purposes.

The first phase should involve a moderate amplitude (malus surcharge) to test producer response and administrative systems before scaling.

Phase	Focus	Recommended Amplitude
Phase 1	Baseline, methodology, governance, legal framework	N/A - no modulation yet
Phase 2	2-3 high-impact, unambiguous criteria (carbon black, PVC, clear non-recyclable formats)	Test and learn. Moderate to high amplitude
Phase 3	Expanded criteria set: recycled content bonus, label compatibility, recyclability, criterion retirement	High amplitude

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5.2.13 Guidance Note: Eco-Modulation Implementation Phases

Phase 1: Baseline and Architecture | **Phase 2: First Criteria - High-Impact, High-Measurability** | **Phase 3: Expanded Criteria**

Following the first review cycle, the scheme could expand the criteria:

Recycled content:
Introduce a bonus for packaging containing a minimum percentage of certified post-consumer recyclate. Expand the bonus tier at higher content levels as PCR market availability grows.

Label and sleeve compatibility:
Differentiate between packaging with labels/sleeves that are fully compatible with sorting and washing processes versus those that contaminate the stream.

Overall recyclability profile:
Expand from binary (recyclable/non-recyclable) to tiered (e.g., readily recyclable/recyclable with technical limitations/non-recyclable) to create more granular incentives.

Retirement of criteria that have served their purpose.

Phase	Focus	Recommended Amplitude
Phase 1	Baseline, methodology, governance, legal framework	N/A - no modulation yet
Phase 2	2-3 high-impact, unambiguous criteria (carbon black, PVC, clear non-recyclable formats)	Test and learn. Moderate to high amplitude
Phase 3	Expanded criteria set: recycled content bonus, label compatibility, recyclability, criterion retirement	High amplitude

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5.3.1 Checklist: Producer Membership Agreement

Contract preparation checklist for a PRO



Purpose:
This checklist guides a PRO practitioner through the thinking process required to prepare a membership agreement with a producer (brand owner, importer or responsible entity) who is subject to EPR obligations. Work through it in order - each section builds on the previous one. Tick each box when satisfied. The “Guidance for Practitioners” column explains the intent of each question so you can develop a locally appropriate contract.

Note: This checklist is not a model contract and does not constitute legal advice.

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Contract preparation checklist for a PRO: Producer Membership Agreement

Section 1 - Regulatory Foundation | **Section 2 - Counterparty Identification & Eligibility** | **Section 3 - Products Placed On Market** | **Section 4 - PRO Obligations To The Producer**

Checklist Question (☐ tick when confirmed)	Guidance for Practitioners
☐ Have you identified the specific EPR law, decree or regulation that creates the producer's obligation in this jurisdiction?	An obligation that cannot be traced to a specific legal instrument may be unenforceable.
☐ Does your contract reference the exact legal text?	
☐ Does the law define who qualifies as a 'producer' for this waste stream?	EPR definitions of 'producer' vary widely - some cover only manufacturers, others also include importers, distributors or brand owners. Using the wrong definition exposes both parties to regulatory risk. Best is to reference the producer “as defined under the regulation …”
☐ Does your counterparty meet that definition?	
☐ What waste stream(s)/product categories does the PRO's license or permit cover (if applicable)?	The PRO can only legally discharge obligations for streams covered by its permit, unless no such permit is required. A producer of products outside the scope cannot be a member or requires a separate contract.
☐ Does the competent regulatory authority need to approve the contract or its standard terms before signature?	In some jurisdictions the regulator must validate or register the membership contract. Signing without approval may invalidate the transfer of the EPR obligation.
☐ Is there a national model contract or mandatory clause set prescribed by regulation or a standard contract applicable to all members?	If mandatory clauses exist, they cannot be varied by the parties. Identify them first so the contract template is built around them.
☐ What is the competent court or arbitration mechanism for dispute resolution in this jurisdiction?	Some EPR regulations may prescribe the relevant court. Where they do not, the parties must make a choice that will be enforceable locally.
☐ Is it named in the regulation?	
☐ Are there regulatory filing or notification requirements associated with the contract signature (e.g. filing with the producer registry)?	Some regimes require the PRO to notify the authority when a new producer joins. Identify timing and format requirements now. Some allow or require that the PRO registers the producer.

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Checklist Question (☐ tick when confirmed)	Guidance for Practitioners
☐ Have you obtained the producer's full legal name, legal form, registered address, and national company registration number?	The contract must identify the legal entity precisely. Trading names are not sufficient. Verify against the official company register of the jurisdiction.
☐ Who is the authorized signatory?	Typically, persons other than the legal representatives of the producer may need a formal power of attorney or board resolution. Request a copy.
☐ Do they have the legal authority to bind the company?	
☐ Does the contract cover the producer's affiliates and subsidiaries?	Some producers want a single contract covering a group. This is convenient but requires careful drafting as each entity may have different POM volumes and different regulatory obligations. It may be allowed or not under the jurisdiction.
☐ If so, are they identified?	
☐ Does the producer currently sell products under a third-party brand (private label)?	Private label creates ambiguity: the brand owner may bear the obligation, not the manufacturer. Clarify this before the contract is signed to avoid under-declaration.
☐ If so, who bears the EPR obligation?	
☐ Is the producer already registered on the national producer registry?	If the PRO will register on the producer's behalf, a specific mandate (power of attorney) is required as an annex. Confirm whether the regulation permits the PRO to act as representative.
☐ If not, who will register them and when?	
☐ Has the producer previously fulfillled its EPR obligations through another mechanism?	Some regulations extend the obligation backwards (e.g. three prior years). The contract should address back-obligations - either the producer proves compliance or the PRO invoices arrears.
☐ Are there arrears?	

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Checklist Question (☐ tick when confirmed)	Guidance for Practitioners
☐ What product categories does this producer place on market in the covered territory?	Different categories may attract different fee rates (eco-modulation). Missing a category means the producer is under-declaring. A product schedule as a contract annex, signed by the producer, is best practice.
☐ Have all categories been listed and confirmed?	
☐ What is the unit of measurement for POM declarations for each category (kg, units, liters, other)?	The unit must match the tariff grid. Mixing units across a product range is a common source of errors and disputes. Confirm the unit with the regulator if it is prescribed.
☐ In which capacities (manufacturer, importer, distant seller established abroad, etc.) is the producer a producer?	EPR obligations typically apply at the point of first placing on the national market. Importers and distant sellers established abroad may have different obligations than domestic manufacturers. Confirm the scope.
☐ How are POM volumes handled in the declaration cycle?	Typically, declaration periodicity tends to be the same for all producers. Exceptions apply sometimes for small producers. It must be aligned with the regulations in any case.
☐ Are there product types that are exempt from EPR under the applicable regulation?	Some regulations exempt certain packaging types, or products for export. Confirm exemptions in writing because they affect the fee calculation and must be documented.
☐ Does the producer's product mix include any packaging that could be subject to eco-modulation (bonus or malus by recyclability)?	If eco-modulation exists in this jurisdiction, the contract must reference the recyclability rating methodology and how bonuses/maluses are applied. This can significantly affect the fee per category.
☐ How will the PRO verify the POM declarations provided by the producer?	Think about this before drafting the audit clause. The answer shapes what data the producer must retain, in what format, and for how long. Common sources: customs data, sales records, production records.

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Checklist Question (☐ tick when confirmed)	Guidance for Practitioners
☐ Has the PRO clearly committed to managing the waste from the producer's products in compliance with the regulation?	This is the fundamental obligation - the PRO accepts legal transfer of the EPR duty. Without this commitment being explicit, the producer may remain directly liable.
☐ Is the PRO's obligation to only use compliant sub-contractors stated?	The PRO shall not be allowed to transfer its compliance obligation to sub-contractors without also ensuring those sub-contractors are compliant.
☐ Will the PRO register the producer on the national producer registry? If so, is a mandate annex prepared?	Acting as the producer's representative for regulatory filings requires explicit written authority. Check whether local law authorizes it and requires a notarized or witnessed mandate.
☐ How and when will the PRO publish and update the fee schedule?	Producers need advance notice of fee changes to budget. The tariff update process, including notice period to members and effective date, should be spelled out.
☐ Is this process aligned with regulator requirements?	
☐ What reporting or information will the PRO provide to the producer regarding collective performance?	Members often want to know collection rates, treatment outcomes and use of their fees. Define what the PRO will share and how often. This builds trust and supports producer engagement.
☐ Has the PRO's authority to represent members before public authorities been defined and accepted by the producer?	The PRO often negotiates regulatory targets, defends members' interests, and makes public statements on behalf of the membership. The producer must explicitly accept this representation in the contract.

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Contract preparation checklist for a PRO: Producer Membership Agreement

Section 5 - Producer Obligations | Section 6 - Fee Structure & Payment | Section 7 - Information, Declaration & Audit | Section 8 - General Contract Terms | Section 9 - Annexes & Contract Readiness

Checklist Question (☐ tick when confirmed)	Guidance for Practitioners
☐ Has the producer committed to providing accurate and timely POM declarations as a basis for the fee invoice?	The declaration is the basis for invoicing the fee. Accuracy matters: incorrect declarations affect the PRO's ability to report to the regulator. Define format, deadline, and the system used.
☐ What are the consequences if the producer fails to declare on time or declares inaccurately?	A clear escalation (reminder, notice, suspension of PRO services, material breach) protects the PRO and provides the producer with a fair process. 'Material breach' should be defined. Contract may contain penalties.
☐ Are material breach, clear escalation process and penalties defined?	
☐ Is the producer obligated to provide declarations covering prior periods not previously declared? (in case EPR regulations create obligations retroactively)	Many EPR regulations create obligations retroactively. If so, the contract should address how back-declarations are handled, for instance, with a separate invoice, instalment plan, or proof of prior compliance.
☐ Has the producer committed to support PRO operations, including towards public authorities?	A collective EPR scheme works best when producers actively cooperate - for example, by participating in awareness campaigns or lobbying for sensible regulatory targets.
☐ Has the producer accepted the PRO's right to audit their declaration data? Is the audit scope defined?	Without audit rights the PRO cannot verify the accuracy of declarations. Define scope (what can be audited), notice period, and access rights to premises and systems.
☐ If the regulation requires financial guarantees from producers (bonds, deposits), has the producer committed to providing them?	Some regimes require producers to provide collateral for their EPR obligations. Even if not currently required, consider whether a provision should be included for future regulatory changes.
☐ Has the producer committed to notifying the PRO of any material change in their business (ownership, products, volumes)?	A merger, acquisition or change in product mix can significantly affect POM volumes and the producer's EPR obligation. The PRO needs to know promptly to update declarations and invoices.

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Contract preparation checklist for a PRO: Producer Membership Agreement

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Checklist Question (☐ tick when confirmed)	Guidance for Practitioners
☐ What is the fee basis - per kg placed on market, per unit, per liter, or other?	The tariff grid must express fees in units that match the POM declaration unit. Inconsistency between the two is the most common source of billing disputes.
☐ Is this consistent with the regulation?	
☐ Are fee rates differentiated by product category or material type?	The PRO should have a price list structured for all producers and apply it in the contract, preferably into a separate schedule that may be updated from time to time.
☐ Does the tariff grid require approval by the competent authority before it comes into effect?	In regulated EPR schemes, the PRO may sometimes not unilaterally set fees. The approval process and timeline must then be planned well in advance.
☐ Is there a minimum annual fee below which the PRO's administrative costs are not covered?	Small producers generate significant administrative cost relative to their fee contribution. A minimum fee floor is common practice. Confirm it is proportionate and non-discriminatory.
☐ What is the invoicing cycle (annual, quarterly, monthly)?	The cycle affects PRO cash flow. Advance quarterly payments are common in well-functioning EPR schemes. Define due dates precisely (e.g. 31 March, 30 June, 30 September, 31 December).
☐ What are the payment due dates?	
☐ What happens if the producer does not pay on time?	The PRO needs a proportionate remedy - typically a notice period followed by suspension of PRO services (meaning the producer's EPR coverage lapses). Define the steps clearly to avoid disputes. Penalties can be built into the contract.
☐ Is there a suspension mechanism?	
☐ What is the fee revision mechanism? What triggers a revision and who approves it?	Commodity markets, logistics costs and regulatory targets change. The contract should anticipate fee revisions and set a clear process, including producer notice period and regulator approval where required.
☐ Are payment obligations clearly stated to survive contract termination?	A producer who resigns must settle all outstanding amounts before the termination is effective. Fees accrued during the membership period cannot be avoided by terminating the contract.

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Checklist Question (☐ tick when confirmed)	Guidance for Practitioners
☐ What specific data must the producer declare, in what format, and with what periodicity?	Be specific: product category, material type, weight per unit, total volume per period. Ambiguity in the declaration requirements is the main cause of under-declaration (intentional or not).
☐ Has the producer authorized the competent authority to share their historical POM data with the PRO?	Regulators often hold prior-year declaration data that can be used to cross-check current declarations. Without this authorization, the PRO may be working with incomplete information.
☐ Does the contract give the PRO (and mandated auditors) full access to the producer's records, systems and premises for audit purposes?	Access rights must be explicit. 'Records' should include sales ledgers, customs declarations, production records and any other data relevant to the POM volume calculation and Eco-modulation criteria verification.
☐ What is the notice period for a scheduled audit? Can the PRO conduct unannounced audits?	Unannounced audits are a strong deterrent to under-declaration. If they are permitted, define the conditions under which they can be triggered.
☐ How are discrepancies identified during an audit handled?	Define a proportionate escalation: • minor error → correction and retroactive adjustment • repeated errors → formal breach notice • critical errors → material breach with termination rights.
☐ What is the consequence of repeated errors?	
☐ What data retention obligations are placed on the producer?	Producers must retain supporting documents for a defined period, typically aligned with the regulatory retention requirement or the statute of limitations in the jurisdiction.

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Checklist Question (☐ tick when confirmed)	Guidance for Practitioners
☐ What is the contract term and renewal mechanism (fixed term, auto-renewal, evergreen)?	Auto-renewal with a notice period to terminate avoids annual renegotiation while preserving flexibility for both parties.
☐ Under what circumstances can the PRO terminate?	Distinguish between: termination for material breach (shorter remedy period, 30 days typical), termination for loss of license/permit (immediate), and termination by mutual agreement.
☐ What notice and remedy period apply?	
☐ Under what circumstances can the producer terminate?	A producer who ceases to be subject to EPR obligations should be able to exit, but termination should not be permitted while amounts are still outstanding. Define this clearly.
☐ What conditions must be satisfied?	
☐ Is confidentiality addressed?	POM volumes are commercially sensitive. The confidentiality clause must cover data the PRO receives from the producer, and data the producer receives about PRO operations and other members.
☐ Does it cover both contract content and POM declaration data?	
☐ Is there a force majeure provision?	Force majeure should not excuse non-payment: the producer's financial obligation survives even if the PRO cannot physically collect waste during an exceptional event.
☐ Does it exclude payment obligations?	
☐ Are the language of the contract and the language of notices defined?	In multilingual jurisdictions, the authoritative language for interpretation should be specified. Define whether translations are required and who bears the cost.
☐ Is the governing law stated explicitly?	Governing law and jurisdiction of the courts are separate questions.
☐ Does it match the jurisdiction where enforcement will occur?	
☐ Are general boilerplate clauses included: waiver, severability, entire agreement, no partnership?	These clauses prevent unintended interpretations. 'Entire agreement' is particularly important to exclude pre-contractual representations or side letters from having legal effect.

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Checklist Question (☐ tick when confirmed)	Guidance for Practitioners
☐ Is the product/packaging schedule (annex) prepared and signed by the producer?	The product schedule should list every category covered, the applicable unit of measurement, the current applicable fee rate, and the producer's confirmation that it is complete.
☐ Is the POM declaration template (annex) finalized and agreed?	The template should mirror the regulatory reporting format exactly. If the regulator or the PRO uses a digital portal, confirm the producer has access and knows how to use it.
☐ If the PRO will register the producer on the national registry, is the mandate annex prepared and signed?	The mandate must specify: scope of authority, duration, and conditions under which it can be revoked. Verify whether local law authorizes this and requires the mandate to be in a specific form (notarized, witnessed).
☐ Is the fee schedule/tariff grid attached and has it been approved by the competent authority?	Attach the most recent approved version. Note the approval date and any scheduled review. The contract should reference the date of the attached schedule to prevent disputes about which version applies.
☐ Is the invoicing and payment procedure annex prepared (invoice format, due dates, bank details, late payment mechanism)?	Producers need to know exactly what they will receive, when, and how to pay. A well-defined billing procedure reduces payment delays significantly.
☐ Is the audit procedure annex prepared (scope, notice, access rights, escalation for discrepancies)?	The audit procedure should be fair, proportionate and consistent. Producers are more likely to accept audit rights when the procedure is transparent. However, the audit protocol (questionnaire.) should not be shared with the producer.
☐ Is the termination procedure annex prepared (steps, outstanding amount settlement, data retention post-termination)?	A producer who wants to exit should have a clear, step-by-step process to follow. Ambiguity in the exit process leads to protracted disputes.

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5.3.2 Checklist: Waste Operator Service Contract



Contract preparation checklist for a PRO

This checklist guides a PRO through the preparation of a service contract with a waste management operator. It applies to two distinct models:

MODEL A - Physical chain:
the operator physically collects, consolidates, sorts, recycles or otherwise treats waste on behalf of the PRO.

MODEL B - Certificate-based (outcome-based):
the PRO purchases treatment certificates from an accredited operator, without managing the physical chain directly.

Sections 1–4 and 8–10 apply to BOTH models. Sections 5 and 6 are model-specific. Work through the checklist in order. Tick each box when satisfied. The “Guidance for Practitioners” column explains the intent of each question so you can develop a locally appropriate contract.

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Checklist Question (☐ tick when confirmed)	Guidance for Practitioners
☐ Have you identified the specific EPR regulation and waste management laws that govern this contract?	The operator's service must be compliant with both EPR law (which creates the PRO's obligation) and general waste management law (which governs how waste is handled). Both bodies of law apply simultaneously.
☐ Does the regulation define the waste stream covered by this contract?	The definition of 'waste' is not generic, it varies by stream and jurisdiction. Using the wrong definition can invalidate the contract's regulatory purpose.
☐ Have you used the exact regulatory definition?	
☐ Does the PRO's license/permit authorize it to contract operators for this waste stream and territory?	The PRO's authority to act flows from its license/permit. A contract for a service outside the license/permit scope cannot discharge the PRO's regulatory obligation or the producers' obligations.
☐ Does the regulator need to approve or register this type of contract before it takes effect?	Some jurisdictions require operator contracts to be filed with the environmental authority. Check whether approval is a precondition to the contract's validity or just an administrative step.
☐ What is the applicable law and which court or arbitration body will hear disputes?	Waste management contracts often involve sensitive regulatory dimensions. Ensure the chosen forum has the technical capacity to hear waste-related disputes and is enforceable locally.

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Checklist Question (☐ tick when confirmed)	Guidance for Practitioners
☐ Have you obtained the operator's full legal name, legal form, registered address and company registration number?	The legal entity must be verified (operating subsidiaries, special purpose vehicles and trading names are common in the waste sector). Contract the entity that holds the permits, not a parent or affiliate.
☐ Who is the authorized signatory?	Operators are often family businesses or SMEs where authority may be informal. Request confirmation in writing (a board resolution or power of attorney), particularly for larger contracts.
☐ Have you verified their authority to bind the company?	
☐ Does the operator hold all the administrative authorizations, environmental permits and operating licenses required for each service they will perform?	Without valid permits the operator's services cannot discharge the PRO's regulatory obligation. Request copies of all permits at the pre-contract stage, not at signature.
☐ Are the operator's permits current?	Permits expire. If the operator's permit lapses during the contract, the contract may terminate automatically under regulatory law. Build a renewal tracking obligation into the contract.
☐ What are their expiry dates?	
☐ Is the operator compliant with all applicable tax, social security and labor law obligations?	A contractor with outstanding tax or labor liabilities is a reputational and legal risk for the PRO. Request a certificate of tax compliance (or equivalent) at signing and annually.
☐ Does the operator maintain the required insurance coverage for its activities?	Waste management involves environmental, third-party and occupational risks. At minimum: general liability, professional liability, and environmental damage liability. Define minimum coverage amounts appropriate for the scale of services and the jurisdiction.
☐ Has the operator confirmed it does not have conflicts of interest with other obligations that would affect its ability to perform?	An operator with competing contracts (for example, selling the same waste fraction to a third party rather than to the PRO's offtakers) may create traceability and compliance gaps.
☐ Does the operator comply with applicable non-discrimination, health and safety, and workers' rights standards?	PROs have a reputational stake in the practices of their contractors. Include a standard social compliance clause and the right to request evidence of compliance.

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Checklist Question (☐ tick when confirmed)	Guidance for Practitioners
☐ What specific service(s) will this operator perform?	Common service types: logistics/collection, consolidation/sorting, recycling, energy or material recovery, preparation for reuse, final disposal, certificate issuance (Model B). Each service type may require a separate annex and be subject to different regulatory requirements.
☐ Have all services been listed and confirmed?	
☐ What is the geographic perimeter of the services (city, region, national territory)?	Geographic scope affects logistics costs, permit requirements and the ability of the PRO to verify performance. Map the collection zones and treatment site locations explicitly.
☐ What waste streams/fractions is the operator authorized to handle? Does this match the PRO's contract scope?	An operator permitted for plastic bottles is not necessarily permitted for multilayer films. Match the operator's permit scope to the streams covered by this specific contract.
☐ Are all consolidation sites and treatment sites identified by name and address?	Every site where waste is handled must be disclosed and pre-approved by the PRO. Undisclosed sites are a major source of traceability gaps and regulatory risk.
☐ Is there any exclusivity clause?	Exclusivity arrangements may limit the PRO's flexibility to respond to underperformance or to diversify its operator network. They also raise competition law questions in some jurisdictions.
☐ Has the PRO explicitly reserved the right to engage other operators for the same services?	
☐ Has the continuity of service obligation been addressed?	Waste collection cannot stop - it creates public health and regulatory compliance issues. Define the process for suspension (notice, alternatives, penalties) carefully.
☐ Under what conditions can the operator suspend services?	
☐ Are services exclusively to be performed within the national territory? If cross-border movements are needed, how are they governed?	Cross-border waste movements are subject to specific regulations (Basel Convention equivalent, regional agreements). Any cross-border service needs explicit authorization and additional controls.

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Checklist Question (☐ tick when confirmed)	Guidance for Practitioners
☐ Has the operator committed to maintain all required permits and to notify the PRO immediately of any permit problem or regulatory notice?	A notice of non-compliance from the environmental authority is a material event for the PRO. The operator must be obligated to disclose it immediately - not at the next audit.
☐ Has the operator committed to respect the waste treatment hierarchy (reuse > recycling > recovery > disposal)?	The hierarchy is typically established by law. Making it a contractual obligation reinforces the PRO's ability to reject or penalize treatment approaches that fail to meet the hierarchy - even where not strictly prohibited by regulation.
☐ Has the operator committed to use best available treatment techniques?	This obliges the operator to keep its technology and processes up to date. It also protects the PRO if a method that was acceptable at signing becomes sub-standard over time.
☐ Has the operator committed to meet all applicable labor law, payroll tax, and occupational health and safety requirements?	This is not optional goodwill - failure to comply with labor law exposes the PRO to legal risk in some jurisdictions (joint liability for sub-contracted work). Require annual proof of compliance.
☐ Has the operator committed to not making public statements that could harm the PRO or its members?	Operators see the PRO's operations from the inside. A confidentiality and non-disparagement clause protects the PRO's reputation and the integrity of member data.
☐ Has the operator committed to notify the PRO of any material change in ownership, management or financial situation?	A change of ownership can change the operator's priorities, compliance culture and financial capacity. The PRO needs to know - and may need to re-evaluate the relationship.
☐ Has the operator committed to environmental stewardship beyond the minimum legal requirement?	PROs are public-interest entities. Operators that adopt environmental management systems (ISO 14001 or equivalent) add credibility to the scheme. Consider whether this should be a contractual aspiration or a hard requirement.
☐ Has the operator confirmed it will not take on new obligations during the contract term that are incompatible with its obligations to the PRO?	A capacity-constrained operator that accepts too many clients may prioritize higher-margin customers over the PRO's volumes. Consider whether minimum capacity reservations should be included.

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Model A: Physical Chain (Collection/Sorting/Treatment) | **Model B: Certificate-Based (Outcome-Based) - Specific Controls**

This section applies when the operator physically handles waste by collecting, consolidating or sorting it, and/or treating it. Each step in the chain has distinct requirements for traceability, authorization and performance measurement.

1. Logistics & Collection Operations | 2. Consolidation & Sorting Operations | 3. Treatment Operations | 4. Sub-contractors

Checklist Question (☐ tick when confirmed)	Guidance for Practitioners
☐ Have the collection points (drop-off, kerbside, buy-back, door-to-door) been mapped and listed in an annex?	Collection points define the geographic perimeter of the service. They should be agreed and documented before the contract starts - changes during the contract need a formal amendment process.
☐ Have collection frequency, vehicle type and minimum batch weight been defined?	Under-specification leads to operators making fewer, larger collections to reduce costs - potentially leaving waste uncollected. Define minimum service levels explicitly.
☐ At what point does risk transfer from the collection point holder to the operator?	Risk transfer defines who is liable for loss, damage or contamination from the moment of collection. Typically: risk transfers on loading into the operator's vehicle.
☐ What waste tracking documentation must accompany each movement?	Most jurisdictions require a waste tracking for each movement. Define who issues it, who signs it and how copies are transmitted to the PRO (digital system or otherwise).
☐ How are informal sector suppliers and buy-back collectors integrated into the collection chain?	Informal collectors are often the primary collection force in developing markets. If they feed into this operator's collection chain, have you confirmed how they are paid, how their volumes are recorded, and how their contributions are traced to certified tons?

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This section applies when the operator physically handles waste by collecting it, consolidating or sorting it, and/or treating it. Each step in the chain has distinct requirements for traceability, authorization and performance measurement.

1. Logistics & Collection Operations | 2. Consolidation & Sorting Operations | 3. Treatment Operations | 4. Sub-contractors

Checklist Question (☐ tick when confirmed)	Guidance for Practitioners
☐ Has each consolidation site been identified, approved by the PRO, and verified as holding the required permit?	A consolidation site that lacks a valid environmental permit invalidates the traceability chain. The PRO must verify permit status before approving any site - not after a problem arises.
☐ What sorting process is used? What output fractions are produced?	The sorting process determines the quality and market value of the output. Understanding the process helps the PRO assess whether recycling and recovery rates are plausible.
☐ How is contamination identified and managed? What happens to rejected material?	Contamination management is a key quality indicator. Define contamination rate thresholds, consequences for excess contamination and the process for handling rejected fractions (disposal route, cost allocation).
☐ How are sorted fractions weighed and documented at the consolidation site?	Weighing at the consolidation site is the first point at which certified weights are established. Calibrated scales, signed weight tickets and digital records are best practice.

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This section applies when the operator physically handles waste by collecting it, consolidating or sorting it, and/or treating it. Each step in the chain has distinct requirements for traceability, authorization and performance measurement.

1. Logistics & Collection Operations | 2. Consolidation & Sorting Operations | 3. Treatment Operations | 4. Sub-contractors

Checklist Question (☐ tick when confirmed)	Guidance for Practitioners
☐ Has each treatment site been identified, approved by the PRO and verified as authorized for the specific treatment type(s)?	A recycler permitted for PET bottles may not be permitted for LDPE film. Match the treatment authorization to the specific fractions being sent to each site.
☐ What are the minimum treatment rates (recycling rate, recovery rate) the operator commits to achieve?	Treatment rates are what the PRO reports to the regulator. If the operator cannot commit to minimum rates, the PRO cannot meet its regulatory targets. Define rates by fraction and by treatment type.
☐ How are treatment outcomes documented and reported to the PRO?	Require a treatment certificate or equivalent document for each batch, specifying: waste type, input weight, treatment type, output weight, date and site identity. This is the primary evidence the PRO uses to demonstrate regulatory compliance.
☐ What are the approved downstream destinations (outlets/offtakers) for treated fractions?	Downstream destinations must be disclosed, pre-approved and listed in an annex. Changes require prior written approval from the PRO. The operator must audit its downstream chain and provide evidence of compliance on request.
☐ How does the operator ensure that downstream offtakers are compliant and authorized?	The operator's responsibility does not end when it hands waste to an offtaker. Require the operator to hold contractual commitments from each offtaker that allow the PRO to audit them directly if needed.
☐ What happens to residual waste that cannot be recycled or recovered?	Even in the best sorting systems, some fraction ends up in disposal. Define the disposal route, the authorized disposal site and the documentation required.

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This section applies when the operator physically handles waste by collecting it, consolidating or sorting it, and/or treating it. Each step in the chain has distinct requirements for traceability, authorization and performance measurement.

1. Logistics & Collection Operations | 2. Consolidation & Sorting Operations | 3. Treatment Operations | 4. Sub-contractors

Checklist Question (☐ tick when confirmed)	Guidance for Practitioners
☐ Has the operator provided a full list of all sub-contractors who will perform any part of the services?	Sub-contractors are invisible to the PRO unless disclosed. Require disclosure of all sub-contractors - including for logistics, sorting and downstream treatment - as a pre-condition of the contract.
☐ Are sub-contractors subject to the same regulatory and contractual standards as the operator?	The operator cannot use a sub-contractor to circumvent standards it has committed to. Require the operator to flow down all material obligations to sub-contractors by contract.
☐ Does the PRO have the right to audit sub-contractors directly?	Direct audit rights over sub-contractors are essential where the sub-contractor handles a significant portion of the waste or operates the principal treatment facility.
☐ Does the contract require prior written approval from the PRO before the operator can change sub-contractors?	Unapproved sub-contractor changes are a significant audit and compliance risk. Define a minimum notice period (15 days is typical) and require approval before the change takes effect.

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Model A: Physical Chain (Collection/Sorting/Treatment) | Model B: Certificate-Based (Outcome-Based) - Specific Controls

In a certificate-based model, the PRO does not manage the physical collection and treatment chain directly. Instead it procures waste treatment certificates from an accredited operator who certifies that a specified quantity of waste has been collected and treated to a defined standard. This model requires particularly rigorous controls - the certificate is only as valuable as the underlying physical reality it represents and the risk of double counting is high. The questions in this section are designed to help the practitioner think through what assurances are needed and how to build them into the contract.

1. Certificate Validity & Standards | 2. Materiality: Verifying That Physical Waste Exists | 3. Double-Counting Prevention

Checklist Question (☐ tick when confirmed)	Guidance for Practitioners
☐ Is the certificate issued by the operator accredited, recognized or accepted by the competent regulatory authority in this jurisdiction?	A certificate that the regulator does not recognize has no EPR value. Confirm in writing - ideally with a reference to the regulatory text - that this certificate type satisfies the producer's EPR obligation.
☐ What standard, methodology or protocol underpins the certificate?	Certificates can be based on very different methodologies - some are mass-balance, some are physical-output based, some are self-declared and some are third-party verified. Understanding the methodology is essential to assessing the certificate's reliability.
☐ Who issues the certificate - the operator itself, a third-party verifier or the regulatory authority?	Self-issued certificates carry the highest risk of over-declaration. Third-party verified certificates are more credible. Regulator-issued certificates are the gold standard. Factor the issuer's independence into your risk assessment.
☐ Does the certificate specify the waste type, quantity (tons), treatment type, date, origin and facility?	A certificate that does not specify these elements cannot be traced to a physical reality. Each of these fields is an anti-fraud control - the more specific, the better.
☐ What is the geographic scope of the certificate? Does it cover waste collected and treated in the same territory as the PRO's license/permit?	Some certificate markets allow certificates from other regions or countries. If the PRO's license/ permit is territory-specific, certificates from outside that territory may not satisfy the regulatory obligation. Confirm with the regulatory authority.
☐ Is there a registry or ledger where certificates are recorded to prevent double-counting?	Without a registry, the same physical tons can be certified multiple times. Ask whether the issuing authority or a recognized third party maintains a certificate register and whether each certificate is cancelled on first use.

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Model A: Physical Chain (Collection/Sorting/Treatment) | **Model B: Certificate-Based (Outcome-Based) - Specific Controls**

In a certificate-based model, the PRO does not manage the physical collection and treatment chain directly. Instead it procures waste treatment certificates from an accredited operator who certifies that a specified quantity of waste has been collected and treated to a defined standard. This model requires particularly rigorous controls - the certificate is only as valuable as the underlying physical reality it represents and the risk of double counting is high. The questions in this section are designed to help the practitioner think through what assurance is needed and how to build it into the contract.

1. Certificate Validity & Standards | 2. Materiality: Verifying That Physical Waste Exists | 3. Double-Counting Prevention

Checklist Question (☐ tick when confirmed)	Guidance for Practitioners
☐ Can the PRO trace the certified tons back to specific collection events - identified by date, location and weight?	Materiality means that the waste described in the certificate actually exists and was actually handled. Tracing back to collection events with documentary evidence (weight tickets, collection manifests) is the most direct test of materiality.
☐ Are there weighing records - from calibrated, independently verified scales - for each batch of waste associated with the certificate?	Uncalibrated or self-certified scales are a common source of inflated weight claims. Ask who calibrates the scales, how often and whether calibration certificates are available.
☐ Can the PRO inspect the treatment facility to verify that processing capacity is consistent with the certified volumes?	A facility that declares 10,000 tons processed per year but has a physical throughput capacity of 5,000 tons is issuing fraudulent certificates. On-site inspection is the most direct capacity check.
☐ Is there a chain-of-custody document trail linking collection → transport → treatment for each certified batch?	A broken chain of custody - even one missing document - is a red flag. Each handoff in the chain should be documented: who handed over, to whom, what quantity, when.
☐ Has the PRO (or a mandated auditor) conducted a pre-qualification audit of the operator before purchasing certificates?	Pre-qualification audits establish a baseline of what the operator's facilities and processes actually look like. Do not purchase certificates from an operator you have not seen operating.

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1. Certificate Validity & Standards | 2. Materiality: Verifying That Physical Waste Exists | 3. Double-Counting Prevention

Checklist Question (☐ tick when confirmed)	Guidance for Practitioners
☐ Has the PRO confirmed that the certified tons have not been declared to or claimed by, another PRO, producer or scheme?	Double-counting is the most significant integrity risk in certificate-based systems. Ask the operator directly - and contractually require a warranty - that the same tons have not been previously claimed or sold as a certificate to another party, even to an offshore buyer (as voluntary plastic credits for instance).
☐ Does the contract require the operator to warrant that no certified tons are simultaneously claimed under any other scheme, program or contractual arrangement?	A warranty of exclusivity is a contractual anti-fraud control. Combined with a right to audit and a penalty for breach, it creates a meaningful deterrent.
☐ Is the PRO purchasing certificates in volumes that are consistent with the realistic waste generation of the covered territory and product stream?	If a jurisdiction generates approximately 50,000 tons per year of a certain waste stream and the PRO is offered certificates for 80,000 tons, the excess is almost certainly fraudulent. Use market intelligence and regulatory data to sense-check volumes before purchasing.

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4. Audit & Verification of Certificate-Issuing Operators | 5. Upstream Vendor Remuneration (including Informal Sector)

Checklist Question (☐ tick when confirmed)	Guidance for Practitioners
☐ Does the contract give the PRO (or a mandated independent auditor) the right to conduct announced and unannounced site visits to the operator's facilities?	Audit rights are the primary assurance mechanism in a certificate-based model. Without them the PRO is entirely reliant on the operator's self-declaration. Unannounced visits are a stronger control than scheduled audits.
☐ Are there defined audit triggers beyond the scheduled periodic audit - for example, when a certificate volume appears abnormally high?	Risk-based audit triggers (statistical anomalies, volume spikes, new facilities) allow the PRO to focus audit effort where the risk of fraud is highest.
☐ Does the audit scope cover the operator's downstream chain - sub-contractors and offtakers - not just the primary facility?	Certificate fraud often originates downstream - a recycler overstates its throughput, or a sorting facility double-counts sorted fractions. Audit rights must extend through the entire chain.
☐ What are the consequences of a failed audit - certificate refusal, contract termination, reporting to the regulator?	The consequences of audit failure must be proportionate but credible. If the consequences are only financial penalties, a dishonest operator may simply factor them into its pricing.
☐ Is there a corrective action process - with defined timelines - for non-conformities found during audits?	A corrective action process gives the operator the opportunity to remedy non-conformities. It also creates a documented record that the PRO followed a fair process before taking stronger action.

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4. Audit & Verification of Certificate-Issuing Operators | 5. Upstream Vendor Remuneration (including Informal Sector) 1/2

Checklist Question (☐ tick when confirmed)	Guidance for Practitioners
☐ Does the operator's certificate pricing reflect the cost of fairly remunerating upstream collectors - including informal sector actors?	A certificate price that is far below the actual cost of collection and treatment is a red flag. Ask the operator to break down their cost structure. If the upstream collection cost is too low to attract real collection effort, the certified tons may not be real.
☐ Has the PRO established or benchmarked what a reasonable price for upstream collection looks like in this market?	Benchmarking against prevailing junk-shop buy-back rates, informal sector tip-over prices and other EPR scheme rates in the region helps identify whether the operator's upstream pricing is realistic. The PRO does not need to set a specific price - but it should know the range.
☐ Does the contract require the operator to disclose the prices paid to upstream vendors and informal collectors?	Disclosure creates accountability. An operator that refuses to disclose upstream pricing may be paying below-market rates - which could mean waste is not actually being collected or that informal collectors are being exploited.
☐ Does the contract give the PRO the right to audit upstream payment records?	Audit rights over payment records allow the PRO to verify that disclosed prices were actually paid. They also deter the operator from maintaining two sets of records.

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4. Audit & Verification of Certificate-Issuing Operators | 5. Upstream Vendor Remuneration (including Informal Sector) 2/2

Checklist Question (☐ tick when confirmed)	Guidance for Practitioners
☐ Has the PRO considered whether informal sector actors should be directly registered or onboarded to improve traceability and fair remuneration?	Direct registration of informal collectors - through a digital platform or buy-back center network - improves traceability and ensures they benefit from the EPR system. The operator contract can require the operator to support such a program.
☐ Is there a minimum floor price or fair price principle for upstream purchases in the contract or its annexes?	A floor price - or a requirement to pay not less than a defined multiple of the prevailing junk-shop rate - protects informal collectors from exploitation and ensures the waste actually gets collected. The specific level is for the practitioner to determine based on local market conditions.
☐ Does the operator's system prevent the same waste from being counted as collected by both an informal collector and a formal collector?	Double-counting can occur at the upstream level: the same batch of waste is weighed and credited to multiple collectors. Ask the operator how they prevent this - typically through sequenced custody transfers and unique batch identifiers.

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Checklist Question (☐ tick when confirmed)	Guidance for Practitioners
☐ Have all required traceability documents been identified and listed - by document type, required fields, issuer and recipient?	Do not leave this to interpretation. Define every document: waste movement manifest, weight ticket, treatment certificate, characterization report, audit log. Each has different required fields.
☐ Through what system will the operator transmit traceability data to the PRO (digital portal, API, email)?	A digital system is strongly preferred - it creates an automatic audit trail and reduces the risk of document manipulation. If the operator uses a different system, define the interface.
☐ What are the submission deadlines for each document type? What happens if the operator misses a deadline?	Late data submission is one of the most common operator failures. Define deadlines precisely (e.g. within 5 business days of each collection event) and attach a penalty schedule for late submission.
☐ If the primary data system is unavailable, what is the backup transmission protocol?	System downtime should not justify a gap in traceability. Define an alternative (e.g. secure email within the same deadline) and confirm it is acceptable to the regulator.
☐ Does the operator have an obligation to report treatment rates (recycling, recovery, disposal) by fraction and by treatment site?	Treatment rate reporting is what the PRO uses to demonstrate regulatory compliance. Without fraction-level and site-level rates, the PRO cannot verify that targets are being met. Periodical onsite verification may be required.
☐ Has the PRO established data retention requirements? For how long must the operator retain traceability records?	Align retention requirements with the regulatory limitation period and the length of any regulator inspection window. Minimum 5 years is common - verify the requirement for this jurisdiction.
☐ Does the contract give the PRO the right to use traceability data - including photographs and site images - for awareness and communications?	Operators often resist image use. If the PRO wants to use photos of collection or recycling operations for public awareness campaigns, get explicit consent in the contract, and define the duration and scope of the usage rights.

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Checklist Question (☐ tick when confirmed)	Guidance for Practitioners
☐ Has the pricing structure been agreed and documented in a pricing annex? Is it clear what triggers payment?	For Model A: payment is typically per ton collected, per ton treated, or per service event. For Model B: payment is per certificate purchased (amount/ ton basis). Define the trigger clearly - many operators are only paid when traceability documents are validated.
☐ Is payment conditioned on submission and validation of traceability documents?	Conditioning payment on document submission is one of the strongest incentives for timely and accurate reporting. If the operator can be paid without submitting documents, the traceability incentive collapses.
☐ Does the pricing structure reflect the true cost of collection, treatment and upstream remuneration?	A price that is too low will either attract poor-quality operators or push operators to cut corners - including underpaying informal collectors. Benchmarking against market rates protects both the PRO and the system.
☐ Is there a penalty regime for non-performance, late data submission or audit failures?	Penalties create accountability. They should be proportionate, clearly defined, and attached as an annex. Consider: flat penalties for late documents, volume penalties for under-collection and termination rights for repeated or critical failures.
☐ What is the invoicing cycle and payment due date? Can the operator suspend services for non-payment?	Monthly invoicing is standard for service contracts. Define the payment due date (e.g. 30 days from invoice) and the process the operator must follow before suspending services - typically a 30-day notice.
☐ Does the price include all costs, including sub-contractor costs and upstream vendor payments?	A fixed price that does not cover sub-contractor costs may lead the operator to underpay its chain. For Model B, ensure the certificate price reflects the full cost stack including upstream collection.
☐ Is the price revision mechanism defined - what triggers it, what process applies and who approves it?	Commodity prices, fuel costs and labor costs change. A contract with no revision mechanism will be renegotiated under pressure - or the operator will absorb losses until they exit.

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Checklist Question (☐ tick when confirmed)	Guidance for Practitioners
☐ Does the PRO have the right to conduct announced and unannounced site visits and audits?	Announced audits allow operators to prepare. Unannounced visits reveal normal operating conditions. Both have value. Define the conditions for each (e.g. 48-hour notice for scheduled audits, no notice for spot checks following a red flag).
☐ Does the audit right extend to sub-contractors and downstream offtakers?	If the audit right stops at the primary operator's site, significant portions of the chain are unverifiable. The PRO should have the right to audit any site in the chain - ideally flowing down through the operator's contracts.
☐ Has a non-conformity classification been established (e.g. critical, major, minor) with defined response timelines? Reference to an applicable standard?	A classification system makes audit outcomes actionable and proportionate. Critical non-conformities (e.g. illegal activity, fraudulent documents) justify immediate suspension. Minor ones (e.g. a late document) justify a reminder and a short correction period.
☐ Has a corrective action procedure been defined - including who issues the notice, what the response must contain and what happens if the operator fails to respond?	A corrective action process protects both parties: the operator gets a fair opportunity to remedy and the PRO has a documented record before taking stronger action.
☐ Can the PRO invite producer members or third-party observers to attend audits?	Producer members have a legitimate interest in how their fees are being spent. Observer rights (subject to confidentiality) enhance transparency and trust.
☐ Is discovery of illegal or fraudulent activity at an operator's site a ground for immediate termination without compensation?	This clause must be explicit. An operator who discovers it faces immediate termination for fraud will be less likely to take the risk. Define 'illegal activity' and 'fraud' clearly.

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Section 9 - Liability, Risk & Insurance (Both Models) | **Section 10 - Term, Termination & General Terms (Both Models)** | **Section 11 - Annexes & Readiness (Both Models)**

Checklist Question (☐ tick when confirmed)	Guidance for Practitioners
☐ At what point does risk transfer to the operator - on loading, on delivery to site, or on treatment completion?	Risk transfer determines liability for loss, contamination or damage in transit. For logistics: typically on loading. For treatment: on delivery to the treatment site. Define the transfer point explicitly for each service type.
☐ Is the operator liable for all direct and indirect damage arising from its services, including damage caused by sub-contractors and offtakers?	The operator cannot limit its liability to its own direct actions if it has engaged a supply chain. The PRO's exposure extends through the entire chain - the operator's liability must match.
☐ Has the operator confirmed it holds general liability, professional liability and environmental damage liability insurance?	Waste management activities carry significant environmental risk. Define the minimum coverage amounts appropriate for the scale of operations and the jurisdiction. Request certificates at signing and at each renewal.
☐ Has the PRO required that insurance certificates be provided at signing and kept current throughout the contract?	An operator whose insurance lapses mid-contract represents an uncovered risk for the PRO. Build a policy renewal notification obligation into the contract.
☐ Does the insurance obligation flow down to sub-contractors and offtakers?	The operator should contractually require its sub-contractors and offtakers to maintain equivalent coverage. The PRO should have the right to verify this on request.

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Checklist Question (☐ tick when confirmed)	Guidance for Practitioners
☐ What is the contract term? Is there an auto-renewal mechanism?	Operator contracts are typically for a defined term (1–3 years) with the option to renew. Auto-renewal is convenient but should include a minimum notice period for either party to decline renewal.
☐ What constitutes a material breach? Is it defined in the contract?	'Material breach' is the trigger for immediate termination. Without a definition, 'material' is interpreted by courts - often narrowly. Define what constitutes a material breach for this specific contract (e.g. fraudulent certificates, lost permits, critical audit failure).
☐ What is the termination process for material breach - notice period, remedy period, escalation?	A 30-day remedy period after notice is standard for contractual breaches. For critical breaches (fraud, illegal activity, loss of permit) immediate termination should be available.
☐ What happens if the PRO loses its license/permit or the regulatory framework changes fundamentally?	If the PRO's license/permit is revoked, it can no longer discharge EPR obligations - and the basis for the operator contract falls away. Automatic termination without compensation in this scenario protects both parties.
☐ Are confidentiality obligations addressed? Do they cover both commercial and operational information?	Operators see the PRO's operations from the inside - pricing, collection network, volumes. Confidentiality must cover all information shared in the course of performance, not just the contract text.
☐ Is force majeure defined? Does it exclude payment obligations?	Force majeure should not suspend the obligation to pay for services already performed. Define what qualifies as force majeure and confirm that the exclusion of payment obligations is explicit.
☐ Are the language of the contract and the language of notices defined?	In multilingual jurisdictions, the authoritative language for interpretation should be specified. Define whether translations of documents are required and who bears the cost.
☐ Are standard boilerplate clauses included: waiver, severability, entire agreement, independent contractor status?	'Independent contractor' is particularly important in operator contracts - the operator's employees must not be classified as employees of the PRO, which would create labor law liabilities.

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Checklist Question (☐ tick when confirmed)	Guidance for Practitioners
☐ Is the service scope annex complete - specifying each service type, geographic perimeter, volumes, and service level requirements?	The scope annex is the most frequently disputed document. It should be specific enough that a third party (e.g. an arbitrator) could determine whether the operator has performed.
☐ For Model A: are logistics, consolidation and treatment annexes prepared for each applicable service type?	Each service type has distinct operational requirements, permit conditions and traceability obligations. A single combined annex often obscures gaps. Separate annexes by service type.
☐ For Model B: is the certificate specification annex prepared (type, standard, issuing body, format, cancellation mechanism)?	The certificate specification is the core document in a Model B contract. It should be detailed enough to prevent disputes about whether a certificate presented by the operator is acceptable.
☐ Is the pricing and payment annex prepared (unit prices, invoicing format, payment due dates, bank details, penalty schedule)?	A pricing annex that is agreed before signature prevents price disputes during performance. Include the penalty schedule in the same annex so consequences for non-performance are visible alongside the fees.
☐ Is the traceability annex prepared (document types, required fields, system, deadlines, backup protocol)?	The traceability annex is the operational backbone of the contract. It should be reviewed and tested (e.g. a trial data submission) before the contract starts.
☐ Is the audit procedure annex prepared (types of audit, notice requirements, non-conformity classification, corrective action timelines)?	A clear, published audit procedure reduces resistance from operators and creates a fair process. Operators who know what to expect are more likely to prepare and cooperate.
☐ Is the pre-information form (operator background, sub-contractors, offtakers, insurance) completed and signed?	The pre-information form is the due diligence record. It should be updated at each contract renewal and whenever material changes occur.
☐ Has the contract been reviewed by legal counsel qualified in the applicable jurisdiction?	Waste management contracts involve regulatory, environmental and labor law dimensions that vary significantly by jurisdiction. Local legal counsel is essential.

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5.2.3 Checklist: Municipality/Local Authority Agreement



Contract preparation checklist for a PRO

This checklist guides a PRO practitioner through the preparation of a cooperation agreement with a municipality or local authority. Municipalities are public bodies with their own legal mandate over municipal waste - the PRO builds alongside that mandate, not on top of it. The legal nature of the agreement, funding basis and governance arrangements are all different from a commercial service contract. Work through each section in order. The “Guidance for the Practitioner” column explains the intent of each question so that you can develop a locally appropriate contract.

This checklist is not a model contract and does not constitute legal advice.

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Checklist Question (☐ tick when confirmed)	Guidance for Practitioners
☐ Is the municipality a public law entity in this jurisdiction? Does that determine which legal framework governs this agreement?	In many civil and administrative law systems, contracts between a public body and a private entity may fall under administrative rather than commercial law. This affects remedies, termination rights and dispute resolution - before drafting, know which regime applies.
☐ What form should the agreement take - commercial contract, administrative convention, memorandum of understanding, framework protocol or grant agreement?	The form determines the legal regime. A commercial contract goes through commercial courts. An administrative convention may require administrative courts. An MOU may not be legally binding at all. Confirm with local legal counsel before choosing the form.
☐ Does the PRO's license/permit or any regulatory text require specific approval or notification before entering into agreements with public bodies?	Some EPR frameworks define how the PRO may interact with municipalities. Entering into cooperation agreements without the required approval may affect the PRO's license/permit status.
☐ Does the municipality's legal mandate over waste management need to be formally acknowledged in the agreement?	The agreement must not attempt to override the municipality's public mandate. It should define how EPR activities fit alongside that mandate - not substitute for it.
☐ If the PRO is paying the municipality for services, do public procurement rules require a tender process rather than a direct negotiated agreement?	This is jurisdiction-specific but commonly overlooked. Above certain financial thresholds, paying a public body for services may trigger procurement rules. Confirm before negotiating directly.
☐ What court or dispute resolution mechanism is appropriate for an agreement involving a public body?	Administrative courts often have exclusive jurisdiction over disputes with public bodies. Commercial arbitration clauses may not be valid in this context in some jurisdictions. Confirm what is enforceable locally before including a dispute resolution clause.
☐ Will the agreement bind the municipality as an institution and survive a change of elected administration?	Municipal elections change governing parties and priorities. The agreement should bind the institution, not the individual officials who signed it. Consider whether a reconfirmation mechanism after each election provides useful protection.

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Checklist Question (☐ tick when confirmed)	Guidance for Practitioners
☐ What waste management services does the municipality currently provide - kerbside collection, transfer stations, drop-off points, street sweeping?	Mapping existing services identifies what the PRO can leverage at lower cost versus what must be created. A municipality that already runs door-to-door collection is a much more efficient EPR partner than one that only manages a central landfill.
☐ Does the municipality already collect recyclable waste separately, or is all waste collected as mixed municipal solid waste?	Source separation at household level is the first step in the EPR chain. If it does not yet exist, the agreement may need to fund its introduction - which is a fundamentally larger and more complex commitment than integrating into an existing system.
☐ What is the geographic coverage of the municipality's current collection - urban core, peri-urban, rural?	EPR collection rates drop sharply outside urban cores. Understanding the geographic gap helps the PRO plan complementary approaches (buy-back centers, informal sector, mobile collection) for underserved areas.
☐ What equipment, vehicles and facilities does the municipality have that could support EPR collection?	Funding the use of existing municipal assets is typically faster and more cost-effective than procuring new ones, especially in the early stages of a scheme.
☐ What is the municipality's capacity to generate and transmit waste data by material fraction?	Many municipalities track total waste volumes but not by fraction. If the agreement requires fraction-level data, the municipality may need training or technical support. Set data requirements at a level the municipality can realistically deliver - then build capacity over time.
☐ Are there informal collectors, junk shop operators, or community organizations already active in this municipality's waste system?	The informal sector often pre-sorts recyclables before municipal collection. The agreement should acknowledge this reality and avoid inadvertently displacing informal collectors whose activity already contributes to the EPR objective.

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Checklist Question (☐ tick when confirmed)	Guidance for Practitioners
☐ Which waste streams will the municipality collect separately under this agreement? In which geographic zones?	Define streams (plastic packaging, paper, glass, other), collection method, frequency, and geographic perimeter. Each variable affects cost and performance targets. List zones explicitly in an annex.
☐ Will the municipality manage drop-off points or bring banks? How many, where, and maintained by whom?	Drop-off points require space, containers, maintenance and periodic emptying. Define who provides containers, who empties them, at what frequency, and who is responsible for cleanliness. Locations should be agreed in advance and listed as an annex.
☐ Will the municipality participate in consumer awareness and communication activities?	Municipalities have direct citizen reach through schools, community centers, local media and official communications. This access is valuable for EPR awareness - but the municipality must agree to it explicitly, and PRO messaging must be approved and aligned.
☐ Will the municipality transmit waste collection data to the PRO? In what format and with what frequency?	Define the minimum data set: total volume collected by stream if possible, by collection point. Monthly reporting is ideal; quarterly is a minimum. Keep the format simple - a complex reporting system that the municipality cannot operate will not be used.
☐ Will the municipality play any role in supporting informal sector integration - providing space for buy-back centers, licensing waste pickers, other?	Municipalities control public space and local licensing. Their cooperation can enable or block informal sector integration. If this is part of the EPR strategy, the municipality's role must be defined.
☐ Are there activities the municipality explicitly will NOT perform under this agreement?	Defining the boundary of obligations is as important as defining what is included. Clear exclusions prevent scope creep and protect the municipality from obligations it did not intend to accept.

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Contract preparation checklist for a PRO: Municipality/Local Authority Agreement

Section 1 - Legal Nature of the Agreement | Section 2 - Understanding the Municipality's Existing Infrastructure & Mandate | Section 3 - Scope of Cooperation | Section 4 - Funding Basis & Financial Arrangements

Checklist Question (☐ tick when confirmed)	Guidance for Practitioners
☐ What is the basis for the PRO's financial contribution - per ton of recyclable waste collected, per household served, lump sum, or cost reimbursement?	Each basis creates different incentives. Per-ton payment rewards volume; per-household rewards coverage. Cost reimbursement removes the incentive to be efficient. Lump sums are simple but ignore performance. Consider a base contribution plus a performance bonus as a balance between simplicity and incentives.
☐ Has the incremental cost of EPR collection been estimated - the cost above what the municipality would spend on waste management anyway?	The PRO should not fund activities the municipality would perform regardless of EPR. Calculating the incremental cost requires understanding the municipal budget - which can be politically sensitive. Define the calculation methodology and agree on it before the contract is signed.
☐ Is the PRO contribution structured as a service payment, a subsidy/grant, or a reimbursement of additional costs?	The legal characterization affects accounting, tax treatment and procurement rules. A grant to a public body has different legal implications from a service fee in most jurisdictions.
☐ Is funding linked to performance? Does the municipality receive the full amount only if it meets collection targets?	Performance-linked funding aligns incentives but municipalities may resist hard conditions. A reasonable approach: a guaranteed base contribution plus a performance bonus for exceeding a minimum collection threshold.
☐ How and when will the PRO make payments? What documentation must the municipality provide to trigger payment?	Define the claim or invoicing cycle, the required supporting documents (collection reports, weight tickets) and the PRO's payment timeline. Late payment by the PRO demotivates municipal cooperation.
☐ Does the municipality's budget cycle align with the agreement's payment schedule?	Municipalities operate on fixed annual budget cycles. A PRO payment that arrives after the budget window may not be actionable until the following year. Align payment timing with the municipal budget calendar.
☐ Are there any restrictions on how the municipality can use the PRO's contribution?	If the PRO wants to ensure its contribution is spent on EPR-related activities, some form of earmarking or reporting obligation is needed. Municipalities generally resist restrictions on use of funds - find a workable balance.

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Checklist Question (☐ tick when confirmed)	Guidance for Practitioners
☐ What is the minimum data set the municipality must provide - total weight collected, by stream if possible, by collection point?	Start with what the municipality can already measure. Build toward more granular data over time as capacity and systems develop. Agree on a realistic baseline now and a roadmap for improvement.
☐ How will waste be weighed? Does the municipality have calibrated scales, or does the PRO need to fund weighing infrastructure?	Weighing is the foundation of any data system. If the municipality lacks weighing infrastructure, the PRO may need to provide or fund it. Define who is responsible for calibration and how often.
☐ In what format and through what system will data be transmitted to the PRO?	A simple monthly spreadsheet submitted by email is often more reliable than a complex digital system the municipality cannot operate. Match technology to capacity.
☐ What are the reporting deadlines? What is the process if the municipality fails to report on time?	Municipalities are not commercial operators and may not respond to penalty clauses. A cooperative approach - reminder, support visit, joint problem-solving - is more effective than financial penalties in maintaining a productive relationship.
☐ Can the PRO conduct verification visits to collection points and transfer stations?	Frame verification as a supportive activity rather than an audit. The goal is to help the municipality improve performance, not to find fault. This framing maintains the goodwill that public-private cooperation depends on.

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Checklist Question (☐ tick when confirmed)	Guidance for Practitioners
☐ Has the PRO agreed with the municipality on key consumer messages, adapted to local language and culture?	Messaging must be locally relevant. The PRO provides core messages and materials; the municipality adapts them. Inconsistent or contradictory messaging from different sources confuses consumers and undermines behavior change.
☐ What communication channels will the municipality use - community meetings, local radio, school programs, municipal newsletters, SMS?	Understanding which channels the municipality already uses effectively allows the PRO to build on existing relationships rather than creating new ones from scratch.
☐ Who provides and funds awareness materials - bins, signage, flyers, digital content?	Ambiguity about who pays for what is one of the most common causes of delayed campaign roll-out. Define: the PRO designs and funds materials; the municipality distributes and displays them.
☐ How will the PRO and municipality coordinate on awareness activities - joint meetings, shared calendar, named contact persons on each side?	A named contact person on each side and even a quarterly coordination meeting makes a significant difference to implementation quality. Coordination does not happen automatically.
☐ Will school programs or community events be included? If so, who organizes, funds and delivers them?	Schools are a high-impact channel for behavior change in SEA and MENA markets - children influence household behavior. If included, define curriculum, responsible party, and budget.

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Checklist Question (☐ tick when confirmed)	Guidance for Practitioners
☐ What is the duration of the agreement? Is it aligned with the municipality's budget and electoral cycle?	A one-year agreement aligned with the municipal budget cycle is easiest to implement. A multi-year agreement provides planning certainty but may require municipal council approval. Consider the local electoral cycle - agreements signed just before an election face continuity risk.
☐ What happens if the elected administration changes? Does the agreement automatically continue, require reconfirmation, or lapse?	In most jurisdictions, administrative agreements bind the institution, not the individually elected official. In practice, a new administration may choose non-cooperation. A review and reconfirmation mechanism after each election is a pragmatic safeguard.
☐ What are the termination conditions and notice period for each party?	The PRO needs collection continuity. The municipality needs the flexibility that public bodies require. A reasonable notice period (3–6 months) with a mid-term review meeting is a workable balance.
☐ Is confidentiality relevant? Are there municipal data transparency or freedom of information obligations that limit what can be kept confidential?	Municipalities are often subject to freedom of information rules that require publication of contracts above certain values. A confidentiality clause must be compatible with these transparency obligations.
☐ Does the agreement need to be published or registered under local administrative transparency law?	Check this before finalizing the agreement - some jurisdictions require public-private agreements above a threshold value to be published or registered with an oversight body.
☐ Does the agreement include a good faith and cooperation clause requiring both parties to work constructively to resolve implementation problems?	Public-private cooperation works best as a relationship, not a transaction. A cooperation clause sets the right tone and provides a basis for problem-solving before either party reaches for formal dispute mechanisms.

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Checklist Question (☐ tick when confirmed)	Guidance for Practitioners
☐ Is the scope of activities annex prepared - listing collection activities, zones, drop-off point locations and awareness commitments?	An agreement without a scope annex is a statement of intent, not an operational commitment. The annex must be specific enough that both parties can independently verify whether it is being fulfillled.
☐ Is the collection infrastructure annex prepared - listing agreed locations, container types and maintenance responsibilities?	Physical infrastructure must be agreed in detail before deployment: who provides it, who maintains it, and who owns it at the end of the agreement.
☐ Is the reporting template prepared - showing exactly what data must be submitted, in what format and by when?	Provide a simple, pre-formatted template. The lower the reporting burden on the municipality, the more likely they are to actually submit reports. Test it before the agreement is signed.
☐ Is the financial annex prepared - showing the contribution basis, calculation method, payment schedule and required documentation?	Include a worked example calculation to make the basis tangible. A clear financial annex prevents the most common misunderstandings about what the PRO will pay and when.
☐ Has the agreement been reviewed by legal counsel familiar with public and administrative law in this jurisdiction?	The public law dimension is what makes this agreement different from all other PRO contracts. Commercial law counsel may not be sufficient - specialist public or administrative law counsel may be needed.

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5.2.4 Checklist: Retailer Collection Partnership Agreement



Contract preparation checklist for a PRO

This checklist guides a PRO practitioner through the preparation of a collection partnership agreement with a retailer. Retailers are treated here strictly in their capacity as collection points and consumer-facing awareness channels. Their role as producers (for their own packaging) is a separate matter handled under the producer membership agreement - do not mix the two roles in a single agreement.

In greenfield EPR markets in South-East Asia and similar regions, retail-based collection is often the most accessible and cost-effective way to reach urban consumers.

Where regulation obligates retailers to host collection, participation is pro bono - the agreement formalizes a legal obligation. Where it is voluntary, a light-touch incentive structure may help. Additional services beyond basic collection (massification, reverse logistics) may warrant compensation - but keep it simple in early-stage EPR. Work through each section in order. The Guidance for the Practitioner column provides additional explanation to help you develop a locally appropriate contract.

This checklist is not a model contract and does not constitute legal advice.

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Checklist Question (☐ tick when confirmed)	Guidance for Practitioners
☐ What is the retailer's format - hypermarket, supermarket, convenience store, specialty, e-commerce, wholesale, other?	Format determines consumer traffic, available space for collection infrastructure, staff availability for awareness, and logistics feasibility. A hypermarket can host a dedicated collection zone; a small convenience store may only manage a single bin. Tailor expectations to the format.
☐ How many stores or outlets does the retailer operate and in which geographic areas?	A national chain with presence in every province is a strategic partner for geographic coverage. A regional chain may be more manageable as a starting point. Map the retailer's footprint against the PRO's priority collection zones.
☐ What is the approximate customer footfall per store per day or week?	Footfall determines the potential volume of waste that consumers can deposit. High-traffic stores generate more volume but also more management complexity. Use footfall data to set realistic volume expectations per store.
☐ Does the retailer sell products that generate the waste streams targeted by this EPR scheme?	A grocery retailer sells large volumes of plastic packaging. A fashion retailer does not. Confirm that the retailer's product mix is relevant to the waste stream being managed before committing time and resources to the partnership.
☐ Have the retailer's legal identity, registered address and authorized signatory been confirmed?	A retail chain may have multiple legal entities - operating companies per region or per format. Contract the entity that actually controls the stores where collection will take place. Request evidence of the signatory's authority to bind the company.
☐ Does the retailer have an existing sustainability or CSR program? Is EPR collection aligned with it?	Aligning the partnership with the retailer's own sustainability commitments makes internal approval easier and produces a more willing counterpart. A retailer with a public sustainability target is more likely to honor a collection commitment than one participating reluctantly.

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Checklist Question (☐ tick when confirmed)	Guidance for Practitioners
☐ Does the EPR regulation in this jurisdiction impose any collection obligation on retailers?	Some EPR frameworks explicitly oblige retailers above a certain size or turnover to host collection points. If this applies, participation is a legal obligation - the agreement formalizes it, and the PRO is not asking a favor. Confirm the applicable regulatory text before negotiations begin.
☐ If collection is regulated, what are the minimum regulatory requirements - store size threshold waste streams accepted,?	Regulatory minimums set the floor below which the agreement cannot go. The agreement should reflect these minimums and may go beyond them if the retailer is willing and the PRO has operational capacity to support additional collection.
☐ If collection is voluntary, what is the retailer's motivation - brand reputation, customer loyalty, regulatory anticipation, other?	Understanding the retailer's motivation helps frame the agreement in terms they value. A retailer motivated by brand reputation may accept broader obligations than one participating purely out of regulatory caution.
☐ Is the retailer also a producer under EPR? If so, is that role kept completely separate from this agreement?	If the retailer places its own-brand packaging on the market, it is also an obligated producer. That obligation is handled separately under the producer membership agreement. Mixing the two roles in a single agreement creates confusion about what is being compensated and risks inadvertent cross-subsidization. However, offsetting practices exist in some jurisdictions, where a retailer can deduct its own collection from its producer obligation.
☐ Are there regulatory constraints on how the PRO can compensate retailers - is payment for mandatory collection prohibited, capped or subject to regulator approval?	Some EPR regulations prohibit payments to retailers for collection activities they are already obligated to perform in order to prevent free-rider problems. Others allow reasonable cost reimbursement. Confirm the applicable rules before agreeing on any financial terms.

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Checklist Question (☐ tick when confirmed)	Guidance for Practitioners
☐ Which waste streams will the retailer accept at in-store collection points?	Start with streams that are easiest for consumers to identify and separate - typically plastic bottles, cans and paper/cardboard. Avoid asking consumers to sort into too many categories at point of deposit. Contamination rises steeply with complexity. Consumer traffic for the sole purpose of returning waste can also be disruptive in stores.
☐ What collection format will be used - dedicated bins, reverse vending machines, bag drop, other?	The format affects space requirements, cost, consumer usability and contamination rates. In early-stage EPR, clearly labelled bins are often more effective than complex technology. Reverse vending machines have higher upfront cost but generate better data and lower contamination.
☐ How many collection points per store and where - entrance, exit, car park, dedicated recycling zone?	Location within the store significantly affects deposit rates. Entrance and exit placements outperform back-of-store locations. Agree on locations explicitly and list them by store in an annex - locations that are agreed on paper but change in practice are a common source of disputes.
☐ Who provides the collection infrastructure - bins, signage, promotional materials - and who owns it?	The PRO typically provides and funds collection infrastructure. Define ownership clearly: if the PRO owns the bins, it needs the right to remove them at the end of the agreement. If the retailer provides space and the PRO provides containers, both sides must agree on maintenance.
☐ Who manages the collection points on a day-to-day basis - bin maintenance, contamination removal, replenishment of materials?	Basic collection point management falls to the retailer's store staff. This is a real operational commitment that retailers frequently underestimate at signing. Define expectations proportionately - a large hypermarket can assign a staff member; a small convenience store cannot.
☐ Who collects waste from the stores and how frequently? How does the retailer prepare waste for collection?	Collection from the store is organized by the PRO's logistics operators. The retailer must ensure waste is accessible at the agreed collection time. Define storage requirements: location within the store, maximum storage duration, packaging/containment.
☐ Are there space, hygiene, odor or safety constraints on waste storage in the retailer's premises?	Waste in a retail environment raises hygiene and consumer experience issues. Agree on the storage location, maximum time before collection, and packaging requirements to prevent conflicts with the retailer's health and safety obligations.

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Checklist Question (☐ tick when confirmed)	Guidance for Practitioners
☐ Will the retailer display PRO-provided awareness materials - posters, bin signage, shelf stickers, digital screens?	In-store visibility is one of the most cost-effective awareness channels available to the PRO. Confirm what space is available, who designs and prints materials, and who is responsible for keeping them current, undamaged and correctly positioned.
☐ Will the retailer include EPR collection messaging in their own consumer channels - loyalty app, newsletter, website, social media?	Retailer-owned channels often reach millions of consumers. If the retailer agrees to include the PRO's messaging, define the frequency, format and approval process for retailer-communicated content. This is potentially very valuable - handle it carefully to respect both parties' brand guidelines.
☐ Will retail staff be trained to answer basic consumer questions about the collection scheme?	Nothing undermines a collection campaign faster than store staff who know nothing about it. Even a one-page briefing significantly improves consumer experience and reduces contamination.
☐ Does the retailer have any restrictions on the PRO's branding or messaging displayed in their stores?	Large retailers have strict brand guidelines and may not allow third-party branding to dominate. Understand these constraints before designing materials - redesigning at a late stage is expensive and delays roll-out. Regulations may however impose constraints.
☐ Has the PRO agreed with the retailer on how the partnership will be communicated publicly?	A joint announcement can generate positive coverage for both parties. Define who approves public communications, what claims can be made, and how both parties' brands are represented.

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Checklist Question (☐ tick when confirmed)	Guidance for Practitioners
☐ What is the minimum data the retailer must provide - weight deposited per store per period, by stream?	If collection infrastructure includes a scale (e.g. reverse vending machine), data is automatic. If it is a simple bin, weight is recorded when the PRO's operator collects. Define who measures, who records, and who reports - and to whom.
☐ How will the retailer transmit data - a simple form, a digital platform, an automated feed?	Match technology to the retailer's capacity. A large chain with a data management system may be able to integrate automatically. A smaller retailer needs a simple paper or spreadsheet form. Complexity in reporting leads to non-compliance.
☐ What is the reporting frequency?	Monthly reporting enables early identification of underperforming stores. Quarterly is the minimum for annual performance assessment. Agree on a frequency the retailer can genuinely sustain.
☐ Does the PRO have the right to visit stores to verify that collection points are operational and properly maintained?	Frame verification visits as support visits rather than audits. The goal is to identify problems and help the retailer solve them, not to penalize. Regular supportive visits also maintain the relationship and signal the PRO's commitment.

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Checklist Question (☐ tick when confirmed)	Guidance for Practitioners
☐ Is basic collection activity - hosting bins, maintaining collection points, allowing operator access - treated as pro bono under this agreement?	If collection is a regulatory obligation for the retailer, paying for it may contravene regulation and create perverse incentives. If voluntary, a light recognition or compensation structure may be appropriate. Document the regulatory position clearly in the agreement.
☐ Will the PRO reimburse the retailer for any direct, verifiable costs of hosting collection - for example electricity for reverse vending machines, or incremental waste storage costs?	Even if the activity is pro bono, the retailer should not be financially penalized for participating. Reasonable cost recovery for specific, verifiable expenses is defensible and maintains goodwill. Define eligible costs and a simple claims process.
☐ Will the PRO provide in-kind support - infrastructure, materials, training - that reduces the cost burden on the retailer?	In-kind support (bins, signage, staff briefings) is often more practical than cash payments. It makes participation easier and reduces negotiation complexity concerning financial terms. In-kind contributions also ensure the PRO maintains control over quality and branding.
☐ If the retailer provides additional services beyond basic collection - massification at distribution centers, reverse logistics - will these be compensated separately?	A retailer that consolidates waste from multiple stores at a distribution center before handoff to the PRO's operator is providing a genuine logistics service worth compensating. If included, keep it simple: a unit price per ton consolidated and a minimum threshold volume. For greenfield EPR, consider deferring this to a later stage when the scheme is established.
☐ Are there non-financial incentives - use of a 'Recycling Partner' logo, inclusion in PRO communications, sustainability reporting recognition?	Many retailers value public recognition as much as financial compensation. The right to display a partnership logo and be named in the PRO's communications can be a meaningful and low-cost incentive. Define usage rights carefully.

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Checklist Question (☐ tick when confirmed)	Guidance for Practitioners
☐ Does the PRO have the right to mention the retailer by name in public communications?	Naming the retailer is a valuable endorsement but requires explicit consent. Some retailers are sensitive about association with 'waste' messaging. Define what types of communications are permitted: press releases, website, social media, events.
☐ Does the retailer have the right to use PRO or scheme branding - logos, certifications - in their own communications?	A recognized scheme logo gives the retailer's sustainability claims credibility. Define usage rights: scope, duration, format, and approval process for each use. Include a right for the PRO to withdraw usage rights if the retailer fails to meet obligations.
☐ Who owns the signage and promotional materials provided by the PRO?	Materials provided by the PRO remain PRO property. If the agreement ends, the PRO has the right to remove its materials from the retailer's stores. Define the removal timeline and process.
☐ Who owns the consumer deposit data generated at the retailer's collection points? Can the retailer use it independently?	Data about consumer deposit behavior at a specific store may be commercially valuable to the retailer. Define ownership clearly and specify whether the retailer may use this data independently of the PRO - for example, for marketing or loyalty program purposes.

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Checklist Question (☐ tick when confirmed)	Guidance for Practitioners
☐ What is the initial term of the agreement and is there an auto-renewal mechanism?	A one-year initial term with auto-renewal is standard for retail partnerships. It provides a natural review point without the friction of annual renegotiation. Define the notice period required to decline renewal.
☐ Under what conditions can either party terminate the agreement?	The retailer should be able to exit if the PRO's operators are not servicing collection points. The PRO should be able to exit if the retailer repeatedly fails to maintain points or refuses access. Define these conditions and the notice period clearly.
☐ What happens to PRO-owned collection infrastructure at the end of the agreement?	The PRO has provided equipment at its own expense. Define the removal obligation clearly: who removes it, at whose cost and within what timeframe after the agreement ends.
☐ Is the retailer liable for loss or damage to collection infrastructure while on their premises?	The retailer should be responsible for damage from negligence or misuse - but not for normal wear or events beyond their control. A balanced liability clause is more sustainable than a punitive one.
☐ Is confidentiality relevant - for example for commercially sensitive collection volumes or PRO network information?	Volume data may reveal commercially sensitive consumer behavior patterns. A proportionate confidentiality clause covering data exchanged under the agreement is appropriate. Define what is confidential and what the parties may disclose independently.
☐ Are the language of the agreement and notices defined?	Use the language appropriate for this jurisdiction. For a multilingual country, confirm the language for each category of communication.
☐ Are general boilerplate clauses included - waiver, severability, entire agreement, independent contractor status?	'Independent contractor' is particularly important: the retailer and its staff must not be characterized as agents or employees of the PRO. This protects both parties from unintended labor law implications.

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Checklist Question (☐ tick when confirmed)	Guidance for Practitioners
☐ Is the store and collection point annex prepared - listing all participating stores, locations within each store, collection infrastructure type and waste streams accepted?	The store annex is the operational backbone. Keeping it as a separate annex (not embedded in the main agreement) makes it easy to update as stores are added or removed without amending the main contract.
☐ Is the collection infrastructure specification annex prepared - bin type, signage requirements, maintenance schedule and problem reporting process?	Store staff need to know exactly what to expect: what the bin looks like, where to put it, how to report a problem, and who to call. A one-page store guide is more useful than a lengthy annex.
☐ Is the awareness materials package ready - posters, bin labels, staff briefing, consumer-facing content?	Having materials ready before signature allows deployment to begin immediately after signing. Delayed materials are one of the most common causes of slow roll-out and retailer frustration.
☐ Is the reporting template prepared - simple, pre-formatted, requiring minimal effort from store staff?	A one-page form requiring five data fields is more effective than a complex spreadsheet. Test the template with a store manager before finalizing it.
☐ Has the agreement been reviewed by legal counsel qualified in the applicable jurisdiction?	Even a simple collection partnership agreement should be reviewed locally. Consumer protection law, data privacy law and competition law may all be relevant depending on the jurisdiction and scope of the agreement.

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Users
All

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4.6.1 Introduction of Compliance Scheme Reporting and Traceability

6.1.1 Template: PRO Monthly Operations Report

Plastic Packaging EPR | Reporting Year: _____

STREAM - PET BOTTLES & TRAYS (CLEAR)																
Budget													Tons collected & treated - ACTUAL (t)			
Line item/Metric	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Full Year** Total	**Δ vs Budget** (t)	**Δ vs Budget** (%)	**% Progress** to Budget
Annual budget (t) [paste from Cost Tool]																
Monthly budget reference (= annual ÷ 12)																

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Plastic Packaging EPR | Reporting Year: _____

	STREAM - PET BOTTLES & TRAYS (CLEAR)								STREAM - HDPE BOTTLES & CONTAINERS							
	Budget								Tons collected & treated - ACTUAL (t)							
Line item/Metric	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Full Year** Total	**Δ vs Budget** (t)	**Δ vs Budget** (%)	**% Progress** to Budget
Collection (t)																
Recycling (t)																
Recycling (%)																
Recovery - energy/ material (t)																
Recovery - energy/ material (%)																
Preparation for reuse (t)																
Preparation for reuse (%)																
Final disposal (t)																
Final disposal (%)																
Audits/verifications conducted (count)																
Awareness campaigns (title/description)																
Collection network changes (new partner/ point/exit)																

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	STREAM - PET BOTTLES & TRAYS (CLEAR)								STREAM - HDPE BOTTLES & CONTAINERS							
	Budget								Tons collected & treated - ACTUAL (t)							
Line item/Metric	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Full Year Total	Δ vs Budget (t)	Δ vs Budget (%)	% Progress to Budget
Annual budget (t) [paste from Cost Tool]																
Monthly budget reference (= annual ÷ 12)																

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	STREAM - PET BOTTLES & TRAYS (CLEAR)								STREAM - HDPE BOTTLES & CONTAINERS							
	Budget								Tons collected & treated - ACTUAL (t)							
Line item/Metric	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Full Year** Total	**Δ vs Budget** (t)	**Δ vs Budget** (%)	**% Progress** to Budget
Collection (t)																
Recycling (t)																
Recycling (%)																
Recovery - energy/ material (t)																
Recovery - energy/ material (%)																
Preparation for reuse (t)																
Preparation for reuse (%)																
Final disposal (t)																
Final disposal (%)																
Audits/verifications conducted (count)																
Awareness campaigns (title/description)																
Collection network changes (new partner/ point/exit)																

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	STREAM - PP RIGID (CUPS, POTS, TRAYS, CAPS)							STREAM - LDPE/LLDPE FLEXIBLE FILM & SACHETS							
	Budget							Tons collected & treated - ACTUAL (t)							
Line item/Metric	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Full Year** Total	**Δ vs Budget** (t)	**Δ vs Budget** (%)	**% Progress** to Budget
Annual budget (t) [paste from Cost Tool]																
Monthly budget reference (= annual ÷ 12)																

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	STREAM - PP RIGID (CUPS, POTS, TRAYS, CAPS)							STREAM - LDPE/LLDPE FLEXIBLE FILM & SACHETS							
	Budget							Tons collected & treated - ACTUAL (t)							
Line item/Metric	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Full Year** Total	**Δ vs Budget** (t)	**Δ vs Budget** (%)	**% Progress** to Budget
Collection (t)																
Recycling (t)																
Recycling (%)																
Recovery - energy/ material (t)																
Recovery - energy/ material (%)																
Preparation for reuse (t)																
Preparation for reuse (%)																
Final disposal (t)																
Final disposal (%)																
Audits/verifications conducted (count)																
Awareness campaigns (title/description)																
Collection network changes (new partner/ point/exit)																

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	STREAM - PP RIGID (CUPS, POTS, TRAYS, CAPS)							STREAM - LDPE/LLDPE FLEXIBLE FILM & SACHETS							
	Budget							Tons collected & treated - ACTUAL (t)							
Line item/Metric	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Full Year** Total	**Δ vs Budget** (t)	**Δ vs Budget** (%)	**% Progress** to Budget
Annual budget (t) [paste from Cost Tool]																
Monthly budget reference (= annual ÷ 12)																

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	STREAM - PP RIGID (CUPS, POTS, TRAYS, CAPS)							STREAM - LDPE/LLDPE FLEXIBLE FILM & SACHETS							
	Budget							Tons collected & treated - ACTUAL (t)							
Line item/Metric	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Full Year** Total	**Δ vs Budget** (t)	**Δ vs Budget** (%)	**% Progress** to Budget
Collection (t)																
Recycling (t)																
Recycling (%)																
Recovery - energy/ material (t)																
Recovery - energy/ material (%)																
Preparation for reuse (t)																
Preparation for reuse (%)																
Final disposal (t)																
Final disposal (%)																
Audits/verifications conducted (count)																
Awareness campaigns (title/description)																
Collection network changes (new partner/ point/exit)																

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Plastic Packaging EPR | Reporting Year: _____

	STREAM - MULTILAYER/ MULTI-MATERIAL FLEXIBLE												STREAM - PS & OTHER RIGID			
	Budget									Tons collected & treated - ACTUAL (t)						
Line item/Metric	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Full Year** Total	**Δ vs Budget** (t)	**Δ vs Budget** (%)	**% Progress** to Budget
Annual budget (t) [paste from Cost Tool]																
Monthly budget reference (= annual ÷ 12)																

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	STREAM - MULTILAYER/ MULTI-MATERIAL FLEXIBLE												STREAM - PS & OTHER RIGID			
	Budget												Tons collected & treated - ACTUAL (t)			
Line item/Metric	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Full Year** Total	**Δ vs Budget** (t)	**Δ vs Budget** (%)	**% Progress** to Budget
Collection (t)																
Recycling (t)																
Recycling (%)																
Recovery - energy/ material (t)																
Recovery - energy/ material (%)																
Preparation for reuse (t)																
Preparation for reuse (%)																
Final disposal (t)																
Final disposal (%)																
Audits/verifications conducted (count)																
Awareness campaigns (title/description)																
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	STREAM - MULTILAYER/ MULTI-MATERIAL FLEXIBLE												STREAM - PS & OTHER RIGID			
	Budget									Tons collected & treated - ACTUAL (t)						
Line item/Metric	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Full Year** Total	**Δ vs Budget** (t)	**Δ vs Budget** (%)	**% Progress** to Budget
Annual budget (t) [paste from Cost Tool]																
Monthly budget reference (= annual ÷ 12)																

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	STREAM - MULTILAYER/ MULTI-MATERIAL FLEXIBLE									STREAM - PS & OTHER RIGID						
	Budget									Tons collected & treated - ACTUAL (t)						
Line item/Metric	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Full Year** Total	**Δ vs Budget** (t)	**Δ vs Budget** (%)	**% Progress** to Budget
Collection (t)																
Recycling (t)																
Recycling (%)																
Recovery - energy/ material (t)																
Recovery - energy/ material (%)																
Preparation for reuse (t)																
Preparation for reuse (%)																
Final disposal (t)																
Final disposal (%)																
Audits/verifications conducted (count)																
Awareness campaigns (title/description)																
Collection network changes (new partner/ point/exit)																

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Plastic Packaging EPR | Reporting Year: _____

	STREAM - [USER STREAM 7]									STREAM - [USER STREAM 8]					
	Budget									Tons collected & treated - ACTUAL (t)					
Line item/Metric	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Full Year** Total	**Δ vs Budget** (t)	**Δ vs Budget** (%)	**% Progress** to Budget
Annual budget (t) [paste from Cost Tool]																
Monthly budget reference (= annual ÷ 12)																

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Plastic Packaging EPR | Reporting Year: _____

STREAM - [USER STREAM 7]																STREAM - [USER STREAM 8]
Budget													Tons collected & treated - ACTUAL (t)			
Line item/Metric	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Full Year** Total	**Δ vs Budget** (t)	**Δ vs Budget** (%)	**% Progress** to Budget
Collection (t)																
Recycling (t)																
Recycling (%)																
Recovery - energy/ material (t)																
Recovery - energy/ material (%)																
Preparation for reuse (t)																
Preparation for reuse (%)																
Final disposal (t)																
Final disposal (%)																
Audits/verifications conducted (count)																
Awareness campaigns (title/description)																
Collection network changes (new partner/ point/exit)																

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Plastic Packaging EPR | Reporting Year: _____

	STREAM - [USER STREAM 7]							STREAM - [USER STREAM 8]							
	Budget							Tons collected & treated - ACTUAL (t)							
Line item/Metric	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Full Year** Total	**Δ vs Budget** (t)	**Δ vs Budget** (%)	**% Progress** to Budget
Annual budget (t) [paste from Cost Tool]																
Monthly budget reference (= annual ÷ 12)																

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Plastic Packaging EPR | Reporting Year: _____

	STREAM - [USER STREAM 7]	STREAM - [USER STREAM 8]
	Budget	Tons collected & treated - ACTUAL (t)

Line item/Metric	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Full Year Total	Δ vs Budget (t)	Δ vs Budget (%)	% Progress to Budget
Collection (t)																
Recycling (t)																
Recycling (%)																
Recovery - energy/ material (t)																
Recovery - energy/ material (%)																
Preparation for reuse (t)																
Preparation for reuse (%)																
Final disposal (t)																
Final disposal (%)																
Audits/verifications conducted (count)																
Awareness campaigns (title/description)																
Collection network changes (new partner/ point/exit)																

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Plastic Packaging EPR | Reporting Year: _____

ALL STREAMS - SUMMARY

Budget - ALL STREAMS													Treatment breakdown - ALL STREAMS (t + %)			
Line item/Metric	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Full Year** Total	**Δ vs Budget** (t)	**Δ vs Budget** (%)	**% Progress** to Budget
Annual budget - ALL STREAMS (t) [sum of all streams, auto-calculated]																

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ALL STREAMS - SUMMARY

Budget - ALL STREAMS | **Treatment breakdown - ALL STREAMS (t + %)**

Line item/Metric	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Full Year Total	Δ vs Budget (t)	Δ vs Budget (%)	% Progress to Budget
Collection (t) - all streams																
Recycling (t) - all streams																
Recycling (%) - all streams																
Recovery (t) - all streams																
Recovery (%) - all streams																
Preparation for reuse (t) - all streams																
Preparation for reuse (%) - all streams																
Final disposal (t) - all streams																
Final disposal (%) - all streams																
Total audits/verifications - ALL STREAMS																

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6.1.2 Templates: PRO Year-to-Date Financial Reporting Template

Producer Responsibility Organization | Plastic Packaging EPR

Period Parameters (enter at top of report)	YTD Report
Parameter	**Entry/Value**
Reporting period (e.g. 'As of 30 June 2026')	As of _____ 202__
Elapsed months - current year (1–12)	[Enter 1–12]
Elapsed months - prior year same period (1–12)	[Enter 1–12]
Budget YTD = Annual Budget × (Elapsed months CY ÷ 12)	Calculated assuming no seasonality

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Period Parameters (enter at top of report)				YTD Report					
Operating Revenue		Operating Costs		Financial Income/(Expense)			Memo - Unit Cost Indicators		
Line Item	**PY YTD** Actual	**Annual Budget** (input)	**Budget YTD** (pro-rated)	**CY YTD** Actual	**Δ vs PY** (amount)	**Δ vs PY** (%)	**Δ vs Budget** (amount)	**Δ vs Budget** (%)	**Comments /** Explanations
EPR fees from producers									
Material value - all streams									
PET bottles & trays (clear)									
HDPE bottles & containers									
PP rigid (cups, pots, trays, caps)									
LDPE/LLDPE flexible film & sachets									
Multilayer/multi-material flexible									
PS & other rigid									
[User stream 7]									
[User stream 8]									
Membership fees									
Other operating income									
Sub-total: Material value									
Total Operating Revenue									

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Period Parameters (enter at top of report)				YTD Report					
Operating Revenue	Operating Costs			Financial Income/(Expense)			Memo - Unit Cost Indicators		
Direct Fixed Costs	Direct Variable Cost			Indirect Fixed Costs			Indirect Variable Costs		
Line Item	**PY YTD** Actual	**Annual Budget** (input)	**Budget YTD** (pro-rated)	**CY YTD** Actual	**Δ vs PY** (amount)	**Δ vs PY** (%)	**Δ vs Budget** (amount)	**Δ vs Budget** (%)	**Comments /** Explanations
Direct Fixed Costs									
Infrastructure & equipment lease/rental									
Other direct fixed costs									
Sub-total: Direct Fixed Costs									
Total Operating Costs									
Operating Result									

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Operating Revenue	Operating Costs			Financial Income/(Expense)			Memo - Unit Cost Indicators		
Direct Fixed Costs	Direct Variable Cost			Indirect Fixed Costs			Indirect Variable Costs		
Line Item	**PY YTD** Actual	**Annual Budget** (input)	**Budget YTD** (pro-rated)	**CY YTD** Actual	**Δ vs PY** (amount)	**Δ vs PY** (%)	**Δ vs Budget** (amount)	**Δ vs Budget** (%)	**Comments /** Explanations
Direct Variable Costs									
Collection & buy-back costs									
Transport to offtaker									
Waste treatment costs/ treatment certificates									
Informal sector incentives									
Other direct variable costs									
Sub-total: Direct Variable Costs									
Total Operating Costs									
Operating Result									

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Period Parameters (enter at top of report)		YTD Report	
Operating Revenue	Operating Costs	Financial Income/(Expense)	Memo - Unit Cost Indicators
Direct Fixed Costs	Direct Variable Cost	Indirect Fixed Costs 1/2	Indirect Variable Costs

Line Item	PY YTD Actual	Annual Budget (input)	Budget YTD (pro-rated)	CY YTD Actual	Δ vs PY (amount)	Δ vs PY (%)	Δ vs Budget (amount)	Δ vs Budget (%)	Comments / Explanations
Indirect Fixed Costs									
Salaries & wages									
Payroll taxes & social charges									
Office & facilities									
Utilities									
IT & data management									
Legal fees									
Insurance									
Accounting fees									
Sub-total: Indirect Fixed Costs									
Total Operating Costs									
Operating Result									

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Operating Revenue	Operating Costs			Financial Income/(Expense)			Memo - Unit Cost Indicators		
Direct Fixed Costs	Direct Variable Cost			Indirect Fixed Costs 2/2			Indirect Variable Costs		
Line Item	**PY YTD** Actual	**Annual Budget** (input)	**Budget YTD** (pro-rated)	**CY YTD** Actual	**Δ vs PY** (amount)	**Δ vs PY** (%)	**Δ vs Budget** (amount)	**Δ vs Budget** (%)	**Comments /** Explanations
Audit fees - operations/EPR compliance									
Registry & EPR scheme fees									
Communication expenses									
Travel, lodging & meals									
Education, awareness & outreach									
Amortization									
Accruals & provisions									
Non-income taxes & duties									
Other indirect fixed costs									
Sub-total: Indirect Fixed Costs									
Total Operating Costs									
Operating Result									

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Operating Revenue	Operating Costs			Financial Income/(Expense)			Memo - Unit Cost Indicators		
Direct Fixed Costs	Direct Variable Cost			Indirect Fixed Costs			Indirect Variable Costs		
Line Item	**PY YTD** Actual	**Annual Budget** (input)	**Budget YTD** (pro-rated)	**CY YTD** Actual	**Δ vs PY** (amount)	**Δ vs PY** (%)	**Δ vs Budget** (amount)	**Δ vs Budget** (%)	**Comments /** Explanations
Indirect Variable Costs									
Consumer awareness & outreach campaigns									
Shared collection routes									
Aggregation hub operation									
Monitoring & data reporting									
Technical studies/R&D									
Other indirect variable costs									
Sub-total: Indirect Variable Costs									
Total Operating Costs									
Operating Result									

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Operating Revenue	Operating Costs	Financial Income/(Expense)					Memo - Unit Cost Indicators		
Line Item	**PY YTD** Actual	**Annual Budget** (input)	**Budget YTD** (pro-rated)	**CY YTD** Actual	**Δ vs PY** (amount)	**Δ vs PY** (%)	**Δ vs Budget** (amount)	**Δ vs Budget** (%)	**Comments /** Explanations
Interest income on reserves									
Interest expense/bank charges									
Foreign exchange gains/(losses)									
Other financial income/(expense)									
Net financial income/(expense)									
Net result before tax									
Income tax/corporate tax									
★ **Net result**									

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Operating Revenue	Operating Costs	Financial Income/(Expense)					Memo - Unit Cost Indicators		
Line Item	**PY YTD** Actual	**Annual Budget** (input)	**Budget YTD** (pro-rated)	**CY YTD** Actual	**Δ vs PY** (amount)	**Δ vs PY** (%)	**Δ vs Budget** (amount)	**Δ vs Budget** (%)	**Comments /** Explanations
C&T volume YTD (tons)									
Total POM volume YTD (tons)									
Operating cost per ton C&T									
Operating cost per kg POM									

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  - Guidance Note: Development of Audit Protocol
  - Guidance Note: Minimum Content of Audit and Audit Report
  - Guidance Note: Auditor Qualification and Auditor Training
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6.2 Auditing Tools

Users Policymakers | PROs | Auditors

Handbook Reference 4.6.2 Auditing

6.2.1 Guidance Note: Designing an EPR Audit Framework

While designing an EPR Audit Framework, policymakers are advised to define: the stakeholder group it should target; what the audits should verify; and who should conduct them.

Stakeholder group	Objective of EPR Audits – verifying if stakeholders:	Who could audit
 **Producers**	• Accurately report products placed on market, both in terms of volume/weight and material type • Achieve their attributed EPR targets (or vest this obligation in PROs/Collectives) • Have the necessary evidence of meeting targets • Pay correct EPR fees (in case of collective compliance) • Adequately remunerate waste operators (in case of individual compliance) • Fulfill EPR plans (where applicable) • Comply with eco-design requirements (if existing) • Submit legitimate eco-modulation claims (if allowed) • Comply with labelling obligations (e.g., sorting instructions) • Conduct educational and communication campaigns • Other……	• PROs/Collectives, or • Independent third-party auditors • Fraud prevention authorities or competition authorities
 **PROs/ Collectives**	• Use collected funds appropriately • Achieve collection and recycling targets on behalf of member producers • Have the necessary evidence of meeting targets • Contract compliant waste operators • Gather and verify producer and waste operator data • Report data accurately • Conduct education and communication campaigns • Have the necessary financial reserves (if applicable) • Do not engage in anti-market activities (e.g., preventing access to waste to other players, integrating vertically where prohibited, unfair procurement practices) • Other……	• Independent third-party auditors • National Audit Office

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6.2.1 Guidance Note: Designing an EPR Audit Framework

While designing an EPR Audit Framework, policymakers are advised to define the stakeholder group it should target, what the audits should verify and who should conduct them.

Stakeholder group	Objective of EPR Audits – verifying if stakeholders:	Who could audit
 **Waste operators**	• Operate in line with permit or license granted • Document inbound and outbound flows properly • Document operations properly: waste sources, treatment processes applied • Process reported quantities • Use certified equipment (e.g., calibrated scales) • Comply with environmental, health and safety standards • Comply with technical recycling standards • Comply with fiscal and insurance requirements • Avoid material leakage or double counting • Dispose of residue fractions properly • Have reliable waste tracking and tracing system • Do not prevent access to waste to informal sector • Other……	• PROs/Collectives, or • Independent third-party auditors • Environment or waste authority/agency
 **Municipalities**	• Deliver contracted collection and sorting services • Deploy waste bins in the agreed locations and quantities • Keep waste bins clean (if part of their obligations) • Report reliable waste quantities • Report reliable and unbiased costs • Use EPR support funds appropriately • Other……	• Independent third-party auditors, or • Environment or waste authority/agency • National Audit Office • PRO (although that could be contentious)

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6.2.2 Guidance Note: Development of Audit Protocol

Stakeholder group	What audit protocol should encompass
 **Producers/ PROs/ Collectives**	• Reference to the regulatory requirements, standard or contractual commitments against which the audit will be performed • Desktop audit by default, together with ad hoc onsite check if upstream targets exist and upstream measures are reported by a producer • Onsite audit every 3 years • Onsite audit for all new entrants (new producers/Collectives/PROs) covering the first compliance year • Standard process/questionnaire for all auditors • Sampling should vary depending on the producer's/Collective's/PRO's risk profile, rather than applying a fixed percentage coverage for all • Risk profile shall be based on pre-established criteria applied transversally to all producers and may include complexity (product portfolio, branches, activities, data spread in different platforms, etc.), POM, results of previously conducted audits, degree of relevant changes in the producer organization and data management system • When inconsistencies or irregularities are detected, the scope and sampling intensity shall increase
 **Waste operators**	• Reference to the regulatory requirements, standard or contractual commitments against which the audit will be performed • Onsite audit in the first compliance year that could be replaced with a desktop audit after achieving certain criteria (e.g., no misstatements and non-conformities in previous year) • Mandatory onsite audit every 3 years regardless of results from previous years • Standard process/questionnaire for all auditors • Sampling should vary depending on the operator's waste flow volumes (mass balance and documentation attesting inbound versus outbound volumes), rather than applying a fixed percentage coverage for all • Periodical physical mass balance (with risk-based frequency increase) • When inconsistencies or irregularities are detected, the scope and sampling intensity will increase
 **Municipalities**	• Reference to the regulatory requirements, standard or contractual commitments against which the audit will be performed • Desktop audit by default • Onsite audit every 3 years • Onsite audit for all new entrants (new collection centre/transfer station/MRF) covering the first compliance year • Standard process/questionnaire for all auditors • Sampling should vary depending on the facility's risk profile, rather than applying a fixed percentage coverage for all • Risk profile shall be based on pre-established criteria applied transversally to all municipality-owned facilities and may include complexity (materials accepted, activities performed, capacity), results of previously conducted audits, degree of relevant changes in the facility and data management system • When inconsistencies or irregularities are detected, the scope and sampling intensity shall increase

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6.2.3 Guidance Note: Minimum Content of Audit and Audit Report

Stakeholder group	Minimum content of audit and audit report	What auditors should consider
 **Producers/ PROs/ Collectives**	• Obtaining an understanding of each activity performed by producer/Collective/PRO, the information sources, and the procedures for monitoring, measuring and reporting sales information and the corresponding plastic footprint and collection and treatment • Obtaining, analyzing and verifying the information contained in the producer/Collective/PRO information system • Verifying POM and target achievement vs. regulatory targets • Verifying geographical source of waste collected, waste operators contracted and treatment method applied • Verifying achievement of upstream measures declared by producers (if placed on them and/or claimed) • Documenting significant findings • Documenting status of previous findings • Recommending improvements • Issuing a report under reasonable assurance	• Checking if all products are considered; description of what products are missing - % of deviation and how much it is contributing to the overall materiality • Checking if all the sales are reported (whether they are correct, including the returns, exports) - % of deviation and how much it is contributing to the overall materiality • Checking if the IT system algorithm is correct (or Excel database formulas correct) • Checking how the sales numbers and units are calculated – process description • Indication of the list of evidence certification used to report quantities treated (in case of outcome-based EPR systems) • Checking how unit weights are determined: Product sheets, etc. • Checking if producer provides weights and how often they are checked? – Process description • Checking if producer performs independent weighing – Process and frequency • Management of the product change and introduction of new products in scope – Process description • Is the plastic weight correctly applied • Is the classification of plastic packaging into polymers done correctly • How are product weights validated and recorded • Whether the weighing devices (scales, etc.) are calibrated • What is the weighing deviation – calculate % of deviation and how much it is contributing to the overall materiality

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6.2.3 Guidance Note: Minimum Content of Audit and Audit Report

Stakeholder group	Minimum content of audit and audit report	What auditors should consider
 **Waste operators**	• Standard process/questionnaire for all auditors • Sampling should vary depending on the operator's waste flow volumes (mass balance and documentation attesting inbound versus outbound volumes), rather than applying a fixed percentage coverage for all • When inconsistencies or irregularities are detected, the scope and sampling intensity will increase	• What is the information system to track and log inbound and outbound volume • Whether the waste collection geographical sources are reported • Whether all the inbound weight per material and sources is recorded • Whether all the treated weight per material and treatment method is recorded • Whether the IT system algorithm is correct (or Excel database formulas correct) • Who are the off-takers for output fractions and what are their destinations? • What are the technical standards under which the waste operator operates? • How are the weights measured and recorded (including process description)? • Indication of the list of the evidence issued, the respective weight, treatment method and, in case of outcome-based EPR systems, buyers • Whether the weighing scales are tested, calibrated and sealed • What is the process and frequency for mass balance • Whether there is a risk of double-counting • Whether the classification of plastic packaging into polymers is done correctly • What are the certifications held by the waste operator? • Are the licenses held by the waste operator valid and up to date? • Is the waste operator up to date with payroll taxes and insurance coverage?
 **Municipalities**	• Sampling should vary depending on the facility's risk profile, rather than applying a fixed percentage coverage for all • Risk profile shall be based on pre-established criteria applied transversally to all municipality-owned facilities and may include complexity (materials accepted, activities performed, capacity), results of previously conducted audits, degree of relevant changes in the facility and data management system • When inconsistencies or irregularities are detected, the scope and sampling intensity shall increase	• What is the information system to track and log inbound and outbound volume • Whether all the inbound weight per material and sources is recorded • Whether all the treated weight per material and treatment method is recorded • Whether the IT system algorithm is correct (or Excel database formulas correct) • Who are the off-takers for output fractions and what are their destinations? • What are the technical standards under which the municipality operates? • How are the weights measured and recorded (including process description)? • Whether the weighing scales are tested, calibrated and sealed • How EPR-related costs are captured and separated out of non-EPR solid waste management costs (including waste management, education & outreach)

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6.2.4 Guidance Note: Auditor Qualification and Auditor Training

The following **eligibility criteria and principles** are recommended:

Eligibility Criteria for Auditors	Governing Principles
• Free of Conflict of Interest • Independence • Impartiality	Code of Conduct
Non-Discrimination and Fair Practices	Code of Conduct
Confidentiality	• Code of Conduct • NDA
Language	Relevant Local (and English if applicable)

Additionally, the following **eligibility criteria for audit companies** could be considered:

- Accreditation under ISO 17020 (Requirements for the operation of various types of bodies performing inspections), or
- Accreditation under ISO 17065 (Requirements for bodies certifying products, processes and services).

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6.2.4 Guidance Note: Auditor Qualification and Auditor Training

The following **auditor qualifications for individual auditors** are proposed:

Requirements	Individual Auditor	Evaluation Criteria Method
Academic Background	University degree	CV review Covered by the Accreditation Framework
Professional Experience	5 years	CV review Covered by the Accreditation Framework
General Audit Training	>35 hours Audit Training Course OR Auditor registered under IRCA, BEAC, IEMA	CV review Training certificate Covered by the Accreditation Framework
General Audit Experience	3 years as an active auditor AND at least ≥ 10 audits performed	CV review and Audit Log Covered by the Accreditation Framework
Specific Audit Experience	2 EPR audits witnessed by an experienced auditor before enrolling as an autonomous auditor	Records of witness audits
EPR Regulation Training	Dedicated course conducted by national regulator	Training Records
EPR and Industry Knowledge	Waste treatment processes and circularity Sampling Technical knowledge of plastics	Review of the CV Covered by the Accreditation Framework

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4.6.2 Auditing

This section provides practical advice on how to identify, document, and address non-compliance. Building on the concepts and risks outlined in the Handbook, it supports policymakers and PROs in applying data-driven, proportionate and transparent approaches to detect non-registration, under-reporting or avoidance of EPR obligations. It emphasizes coordination between authorities and PROs, use of existing administrative and market data, stakeholder participation in free-riders detection and graduated response measures to improve compliance while safeguarding fairness and system credibility.

6.3.1 Guidance Note: Detecting and Addressing EPR Free-Riders

1 The Free-Rider Problem

An EPR free-rider is a producer, importer or brand owner that places regulated packaging on the market without joining the PRO, without paying EPR fees or without fulfillling any individual producer responsibility obligation. Every ton of packaging a free-rider puts on the market is waste that the system must manage - at the expense of compliant producers.

In greenfield EPR markets, where enforcement infrastructure is still developing, non-registration rates can be significant. The consequences are threefold:

- **Financial:** compliant producers cross-subsidize the cost of managing free-riders' packaging. This distorts competition and erodes member confidence in the scheme.
- **Regulatory:** the PRO cannot meet its collection and treatment targets if a material share of POM volume is unaccounted for. Regulatory credibility depends on close-to-complete registration.
- **Structural:** free-riding creates a race to the bottom - compliant producers face higher fees while non-compliant competitors avoid them entirely, generating a competitive disadvantage that incentivizes evasion of the EPR system.

Free riding is rarely purely deliberate. Many producers, especially SMEs, are unaware of the obligation, uncertain how to comply, or waiting to see whether enforcement is real. Detection and outreach should start with education before escalating to enforcement.

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2 Free-Rider Detection Mechanism

The eight mechanisms below range from low-effort awareness tools to high-intensity enforcement actions. A mature EPR scheme uses all of them in combination.

Interface	Why	How	Effort level[6]
1. Trade Associations as Information Source and Capacity Building Platform	Trade associations hold membership lists that are often more complete than the producer registry. They have existing relationships with members and credibility within the sector. Their cooperation converts an adversarial detection problem into a self-policing one.	• Share the producer registry with relevant associations (or request they cross-check their membership list against it). Gap = potential free-riders. • Offer briefings through association channels: what EPR requires, how to join the system, etc. Non-registrants may simply not know the obligation exists. • Ask associations to formally endorse registration as a condition of sector membership, or to include EPR compliance in their codes of conduct. • Request that associations identify members who import packaging products (importers are a common free-rider segment because EPR obligations on imports are often poorly understood). • Formalize the relationship: a cooperation protocol with the association creates accountability and a channel for ongoing referrals.	**Low**
2. Retailers as Gatekeepers	Retailers are the final commercial link before packaging reaches consumers. A retailer that requires EPR registration proof as a condition of listing makes its shelf effectively inaccessible to free-riders.	• Engage major retailers (hypermarkets, supermarket chains, key wholesale platforms) to include EPR registration - or membership of an accredited PRO - as a standard supplier qualification requirement. • Provide retailers with a simple verification mechanism: an online registry lookup, a certificate of membership, or a QR-coded compliance seal that suppliers can display on product documentation. • Support retailers in implementing the requirement: provide model supplier questionnaire language, a briefing for procurement teams, and a help desk for supplier queries. • Where regulation permits, advocate for retail gatekeeping to be made mandatory - several EPR frameworks in Europe have moved in this direction. • For own-brand (private label) products, confirm the retailer is registered as the producer under the applicable regulation - they are often both a retail partner and a producer.	**Medium**

[6]Effort Level reflects the internal resource required to implement the mechanism, not the overall effectiveness. Low-effort mechanisms (trade association engagement, whistleblowing channels) can be highly effective if maintained consistently. High-effort mechanisms (authority campaigns) are more powerful but depend on regulatory will and enforcement capacity beyond the PRO's control.

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Interface	Why	How	Effort level[6]
3. Public Procurement as a Compliance Lever	Governments are significant buyers of packaged goods. Integrating EPR compliance into public procurement criteria creates a powerful incentive for producers serving the public sector.	• Work with the relevant ministry (environment, finance or procurement) to add EPR registration as an eligibility criterion in public tenders for goods with regulated packaging. • Provide a standard tender clause and verification procedure that procurement officers can use without requiring specialist knowledge of EPR. • Identify the largest public buyers - hospitals, schools, public catering, government offices - and prioritize engagement with their procurement function. • Monitor public contract award notices for suppliers of packaged goods and cross-check against the producer registry.	**Low to Medium**
4. Customs as Information Source and Gatekeeper	Import data is one of the most reliable sources of information on who is placing packaging on the market. Customs declarations contain the importer of record, product description and HS tariff code - enough to identify potential free-riders among importers of packaged goods.	• Request access to import data (at aggregate or anonymized level) from the customs authority for the HS codes corresponding to regulated packaging types. Cross-reference importers against the producer registry. • Establish a data-sharing protocol or MOU with the customs authority. In many jurisdictions this requires a formal agreement between the PRO and the ministry. • Advocate for customs to require proof of EPR registration (or PRO membership certificate) as a condition of release for regulated goods at the border - this is the gold standard gatekeeper role. • Where a border gatekeeper role is not yet possible, use customs data reactively: identify the top importers of regulated categories each year and compare against registry membership. Contact non-registrants directly. • Flag to the competent authority any importer who consistently appears in customs data but not in the producer registry - this is the regulator's enforcement trigger, not the PRO's.	**Medium to High**

[6]Effort Level reflects the internal resource required to implement the mechanism, not the overall effectiveness. Low-effort mechanisms (trade association engagement, whistleblowing channels) can be highly effective if maintained consistently. High-effort mechanisms (authority campaigns) are more powerful but depend on regulatory will and enforcement capacity beyond the PRO's control.

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Interface	Why	How	Effort level[6]
5. Producer and Consumer Whistleblowing	Compliant producers are directly harmed by free-riders and have strong incentives to report them - if a simple, safe channel exists. Consumers can also flag when products lack EPR compliance markings. Both groups are underused detection assets.	• Establish a simple, accessible reporting channel: an online form, a dedicated email address or a phone line. Keep it anonymous to lower the barrier to reporting. • Communicate the channel actively to PRO members - they are the most motivated reporters because they bear the competitive cost of free-riding. • Define a clear triage process: the PRO assesses each report, verifies against the registry, and either contacts the reported entity directly (if non-registered) or refers to the competent authority (if enforcement action is warranted). • Where the EPR scheme includes consumer-facing compliance markings or labels, communicate to consumers what to look for and how to report absence of the mark. • Protect reporters: ensure the reporting channel does not expose the reporter's identity to the entity being reported. Retaliation risk is a significant barrier to reporting, especially between business partners. • Track and publish aggregate statistics on reports received and actions taken - this builds confidence that reporting is effective and encourages continued engagement.	**Low (setup)**

[6]Effort Level reflects the internal resource required to implement the mechanism, not the overall effectiveness. Low-effort mechanisms (trade association engagement, whistleblowing channels) can be highly effective if maintained consistently. High-effort mechanisms (authority campaigns) are more powerful but depend on regulatory will and enforcement capacity beyond the PRO's control.

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2 Free-Rider Detection Mechanism

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Interface	Why	How	Effort level[8]
6. Online Marketplaces and Fulfillment Centers as Gatekeepers	E-commerce is a growing and largely unregulated channel for packaged goods - particularly for cross-border sales where the importer of record is unclear. Marketplace platforms and logistics fulfillment operators are increasingly being recognized as de facto responsible parties for the products they enable.	• Engage major e-commerce platforms operating in the jurisdiction (domestic and cross-border) to require EPR registration as a condition of seller onboarding for product categories with regulated packaging. • Provide platforms with a machine-readable registry API or verification endpoint so they can automate compliance checking at the point of listing. • Engage fulfillment centers (third-party logistics operators who store and ship goods on behalf of sellers) to flag or refuse inbound inventory from sellers who cannot demonstrate EPR compliance. • Monitor major marketplaces proactively: search for sellers of regulated product categories and cross-check against the producer registry. Report non-registrants to the platform and to the competent authority. • Advocate with the regulator for platforms to be included in the EPR regulatory framework as 'responsible parties' for products sold through their platform - this has been the direction of travel in the EU and several Asian jurisdictions.	**Medium**
7. PRO Proactive Commercial and Outreach Activities	Many EPR frameworks explicitly authorize - or require - the PRO to conduct proactive outreach and commercial activities to maximize membership. The PRO has the strongest incentive of any actor to close the registration gap: every unregistered producer is both lost revenue and unmanaged waste.	• Maintain and regularly update a target list of non-registrants: cross-reference the producer registry against trade association lists, customs import data, retail supplier databases and online marketplace seller data. • Assign proactive outreach responsibility to a named role in the PRO - either a dedicated member services function or the operations team. Set a measurable annual target for new member enrollment. • Develop a simple, frictionless onboarding process: reduce the time from first contact to signed contract to a minimum. Complexity in joining is a significant barrier for SMEs. • Segment the outreach approach: large brands require relationship management; SMEs and importers benefit from sector-specific group briefings; e-commerce sellers may be reachable only through digital channels. • Where the regulatory framework permits, publicize the names of non-registrants after a reasonable notice period - reputational exposure is a powerful enrollment incentive.	**Medium**

[8]Effort Level reflects the internal resource required to implement the mechanism, not the overall effectiveness. Low-effort mechanisms (trade association engagement, whistleblowing channels) can be highly effective if maintained consistently. High-effort mechanisms (authority campaigns) are more powerful but depend on regulatory will and enforcement capacity beyond the PRO's control.

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Interface	Why	How	Effort level[8]
8. Authority Audit Campaigns and Enforcement	Ultimately, free-rider detection without enforcement consequence has limited deterrent effect. The competent authority - not the PRO - holds enforcement power. The PRO's role is to generate the intelligence that makes enforcement campaigns effective and to advocate for enforcement to be taken seriously.	• Provide the competent authority with a prioritized list of suspected free-riders - identified through the mechanisms above - as an input to their audit campaign planning. • Advocate for the authority to conduct periodic market surveillance campaigns: unannounced checks at trade fairs, retail inspections, or customs spot checks targeting product categories with high non-registration rates. • Support the authority in developing a proportionate penalty regime: penalties must exceed the cost of EPR fees to be a credible deterrent. A fine that is lower than the avoided EPR contribution is not a deterrent. • Maintain a documented record of non-registrants contacted by the PRO who failed to register - this record is the evidentiary basis for a referral to the authority. • Advocate for the authority to publish enforcement outcomes: named enforcement actions and penalty amounts are a far more powerful deterrent than unpublicized private settlements. • Ensure that the PRO's license/permit explicitly authorizes it to refer suspected free-riders to the competent authority - and that this referral process is defined and documented.	**High**

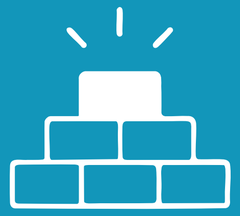
[8]Effort Level reflects the internal resource required to implement the mechanism, not the overall effectiveness. Low-effort mechanisms (trade association engagement, whistleblowing channels) can be highly effective if maintained consistently. High-effort mechanisms (authority campaigns) are more powerful but depend on regulatory will and enforcement capacity beyond the PRO's control.

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6.3.2 Guidance Note: Recommended Sequencing of Free-Rider Detection in a Greenfield EPR Market

In a market where EPR is newly launched, enforcement infrastructure is limited and non-registration is primarily driven by lack of awareness rather than deliberate evasion, the following sequence is recommended:



Year 1: Foundation

- Focus entirely on awareness and frictionless enrollment.
- Engage trade associations.
- Establish the whistleblowing channel.
- Brief major retailers on the forthcoming gatekeeper requirement.
- Launch proactive outreach to the top 50 non-registrants by estimated POM volume.



Year 2: Gatekeepers

- Activate retail gatekeeping - at least with top 3 national chains.
- Establish the customs data-sharing protocol.
- Engage 2-3 largest e-commerce platforms operating in the market.
- Publish the first aggregate non-compliance statistics to signal that the scheme is tracking.



Year 3: Enforcement

- Provide the competent authority with the first prioritized enforcement referral list.
- Advocate for the first public audit campaign.
- Push for EPR compliance to be included in public procurement criteria.
- Target e-commerce and import channels specifically (these are typically the last segment to comply).

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6.3.3 Guidance Note: Proportionality and Due Process of Free-Rider Detection Mechanism

Free-rider detection must be conducted fairly. A producer identified as a potential free-rider may have a legitimate reason for non-registration - their products may be exempt, they may have registered under a different name, or their category may fall outside the current scope. The following principles apply:
Verify against the registry before contacting. Do not assume non-registration from an incomplete data match.
First contact should always be outreach - an offer to join, not a threat. Many non-registrants will comply when approached constructively.
Refer to the competent authority only after the PRO has made reasonable outreach efforts and the producer has not responded or has refused to register.
Document the entire process: date of first contact, method, response received and date of referral. This record protects the PRO if the referral is challenged.
The PRO does not have enforcement power - it has intelligence and persuasion at its disposal. Enforcement is the regulator's exclusive role.

Note: The strongest long-term deterrent to free-riding is a well-functioning, administratively light, cost-reflective EPR scheme. Producers who find registration easy and fees fair will not seek to avoid it. Detection and enforcement are necessary, but scheme quality is the first line of defense.

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7 Continuous Improvement

7.1 Performance Assessment

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7.1.1 Guidance Note: EPR Metrics

Performance metric	Explanation/ unit
Put-On-Market (POM) tonnage	Total weight of products/ materials placed on the market by producers in a reporting period; proxy for future waste generation (tons/year).
Number of producers registered	Count of obligated producers/importers formally registered under the EPR system; indicator of compliance and market coverage (#).
Collection tonnage	Total quantity of target waste collected through formal systems (e.g., take-back, municipal, drop-off) during reporting period (tons/year).
Collection rate	Share of PoM or estimated waste generated that is successfully collected. Typically: collected waste ÷ PoM or waste generated × 100 (%).
Collection network coverage	Geographic/population access to collection points or services; e.g., % of population served, collection points per capita, or regional coverage (%/# locations).
Landfill diversion	Quantity or share of waste diverted from landfill through reuse, recycling, recovery or treatment (tons or %).
Recovery rate	Share of collected waste recovered through material or energy recovery processes. Measures overall resource recovery efficiency (%).
Recycling rate	Share of collected or generated waste that is actually recycled into secondary materials (%).
Awareness campaigns run	Outreach and consumer engagement activities conducted to improve participation; measured through campaigns, impressions, clicks, reach, touchpoints or participation levels (#/reach metrics).

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7.1.2 Guidance Note: Examples of KPIs

KPI	Description	Measure	Performance (above or below target?)	Decision
Collection	Achievement level of the required collection target on the national and/or individual (producer/PRO) level	Actual ÷ Target		
Recycling	Achievement of the target on the national and/or individual (producer/PRO) level	Actual ÷ Target		
Reuse	Achievement of the target on the national and/or individual (producer/PRO) level	Actual ÷ Target		
Free-riders	Achievement of the estimated reduction in free-riders	Year-on-Year Onboarding of producers		
Audit and verification	Proportion of operations or producers or waste operators audited per year	Actual ÷ Target		
Transparency & reporting	Whether annual reports, audit results, or performance data are made public on time	% of reports submitted		
Carbon footprint reduction	Greenhouse gas emissions per ton of material processed	Actual ÷ Target		
Public awareness	Survey-based KPIs measuring public knowledge of proper disposal practices and the EPR scheme	% of respondents understanding their role % of respondents declaring complying with guidelines		
Producer satisfaction	Qualitative or survey-based measure of how satisfied producers are with PRO services, ensuring consideration of services offered beyond pricing	Net Promoter score		

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7.2 Remediation Mechanisms

7.2.1 Guidance Note: Free-Riding and Under-Declaring by Producers

Producers not registering or under-declaring POM

Issue	Control
○ Low fee revenue due to free-riders ○ Distorted market share data	○ Registration audits ○ Fee shortfalls vs. market data ○ Customs cross-checks

Remediation

Producers	PROs/Collectives	Regulatory Authority
○ Mandatory re-registration ○ Corrective POM declaration ○ Multi-year back-payment of fees with interest	○ Report non-registrants to authority ○ Suspend contract ○ No issue of compliance certificates	○ Publish non-compliant producer list ○ Incremental fines ○ Sales bans for persistent offenders

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7.2.2 Guidance Note: Inaccurate or Fraudulent Reporting by Producers

Inaccurate or fraudulent reporting by producers

Issue	Control
○ Declared POM tonnage inconsistent with import/sales data ○ Low plastic-to-material ratios	○ Cross-check of EPR declarations against customs ○ Cross-check with retail data ○ Third-party audit

Remediation

Producers	PROs/Collectives	Regulatory Authority
○ Cooperate with audit process ○ Submit corrected declaration ○ Repay fee differential ○ Implement internal data controls	○ Flag unresolved anomalies to authority ○ Require producer to provide methodology statement ○ Conduct audits ○ Withhold compliance certificate pending correction	○ Impose surcharge on underreported tonnage ○ Incremental fines ○ Sales bans for persistent offenders

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7.2.3 Guidance Note: Underachievement of Targets

Collection and recycling targets missed by PRO/collective

Issue	Control
Collection and recycling rates below annual targets	Annual performance review Independent waste flow audit Collection and recycling rate reporting

Remediation

Producers	PROs/Collectives	Regulatory Authority
Demand corrective plan from PRO before renewing contract; diversify to compliant PRO	Remedial collection plan submission Ring-fence additional funds Expand collection partnerships (informal, municipal, commercial)	Issuance of underperformance notice Financial penalty on PRO in relation to the shortfall Reduce or revoke PRO license if persistent

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7.2.4 Guidance Note: Insufficient PRO Funding

Fee levels insufficient to cover full system cost

Issue	Control
○ PRO operating deficits ○ Underfunded collection ○ Cross-subsidization between material streams	○ Financial controlling process ○ Cost benchmarking ○ Gap analysis vs. actual waste management cost

Remediation

Producers	PROs/Collectives	Regulatory Authority
○ Engage in fee consultation ○ Accept phased fee increase ○ Provide accurate POM data to enable correct fee calculation	○ Commission cost-of-system study ○ Propose revised fee schedule ○ Stream-specific cost accounting	○ Mandate periodical fee review mechanism in EPR regulation ○ Review and approve revised fee tables ○ Mandate minimum reserves and funds ring-fencing

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7.2.5 Guidance Note: Waste Operators Not Meeting Quality or Recovery Standards

Waste operators not meeting quality or recovery standards

Issue	Control
○ Low-quality recyclate ○ High contamination ○ Recycling certificates not credible	○ Recyclate quality testing ○ Spot checks at sorting/recycling facilities ○ Certificates audit

Remediation

Producers	PROs/Collectives	Regulatory Authority
○ Require PRO to demonstrate operator accreditation before signing contract	○ Enforce minimum quality standards in waste operator contracts ○ Conduct facility audits ○ Commission and monitor improvement plans ○ Terminate contracts with non-compliant operators	○ Establish and publish minimum recyclate quality standards ○ License/de-license operators ○ Ring-fence portion of EPR fees for operator capacity building

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7.2.6 Guidance Note: Informal Sector Not Integrated Into EPR System

Informal sector not integrated into EPR system

Issue	Control
○ High leakage of collected material ○ Waste pickers excluded from EPR financial flows ○ Parallel untracked collection and trading	○ Waste flow analysis showing unaccounted volumes ○ Community complaint ○ PRO reporting volume gaps

Remediation

Producers	PROs/Collectives	Regulatory Authority
○ Fund or participate via EPR Fee in inclusive collection programs	○ Design buy-back or incentive schemes ○ Deploy incentive schemes to onboard informal sector ○ Formalize informal aggregator partnerships ○ Include evidenced volume collected informally in reporting	○ Allow informal sector collection to count toward targets (with verification) ○ Establish inclusive EPR guidelines ○ Require PRO to include informal sector in operational plans

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7.2.7 Guidance Note: Lack of Market for Collected Recyclate

Lack of market for collected recyclate

Issue	Control
 Lack of demand for recyclates Collected material stockpiled or landfilled Recyclers exit market	 End market price collapse Comparing recyclate pricing with virgin plastic price Dialogue with waste operators

Remediation

Producers	PROs/Collectives	Regulatory Authority
 Commit to recycled content targets in packaging Participate in industry demand coalitions and standardization initiatives	 Develop long-term agreements Use EPR funds to provide price floor support or co-investment in recycling capacity	 Introduce recycled content mandates Offer fiscal incentives for recyclers Consider blended finance instruments for recycling infrastructure

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7.2.8 Guidance Note: EPR Regulation Outdated or Unenforceable as Market Evolves

EPR regulation outdated or unenforceable as market evolves

Issue	Control
○ Targets no longer ambitious ○ New packaging materials not covered ○ Regulatory gaps exploited	○ Mid-term review findings ○ Stakeholder petitions ○ Significant change in packaging material mix or recycling technology

Remediation

Producers	PROs/Collectives	Regulatory Authority
○ Participate in regulatory consultations ○ Proactively disclose new packaging solutions ○ Propose workable compliance pathways	○ Provide regulators with annual system performance data ○ Flag regulatory gaps ○ Participate in technical advisory groups	○ Mandate scheduled regulatory reviews ○ Maintain standing multi-stakeholder advisory body ○ Use fast-track amendment procedures for technical corrections

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7.3 Dialogue Platform

Users	Handbook Reference
All	4.7.4 Dialogue Platform

This section describes how to establish and operate a structured dialogue platform to support ongoing communication, coordination, and sharing of feedback by EPR stakeholders.

7.3.1 Guidance Note: Governance Structure

The dialogue platform should operate under a clear dialogue platform structure to ensure transparency and accountability.

Typically, the government authority responsible for EPR convenes and chairs the platform. A designated secretariat may support coordination activities, such as preparing meeting agendas, facilitating discussions and documenting outcomes.

Key governance elements may include:

- **Chair:** Government authority responsible for EPR policy or regulation
- **Secretariat:** Agency, ministry or designated organization responsible for coordination
- **Members:** Representatives of relevant stakeholder groups
- **Term of reference:** Clear objectives, roles and operational procedures for the platform

The platform should focus on advisory and coordination functions, while formal regulatory decisions remain the responsibility of the competent authority.

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7.3.1 Guidance Note: Governance Structure

Relevant participants may include:

Checklist	Participant
☐	Government regulators and relevant ministries
☐	Manufacturers, brand owners and their associations
☐	Importers and distributors
☐	Producer Responsibility Organizations (PROs), if existing
☐	Waste collection and sorting operators
☐	Recycling companies and material recovery facilities
☐	Local governments or municipal waste authorities
☐	Civil society organizations (environment, social, consumers) and NGOs
☐	Academic and technical experts

Balanced representation helps ensure that multiple perspectives are considered when discussing policy implementation and system performance.

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7.3.2 Guidance Note: Roles and Functions of a Dialogue Platform across EPR Stages

EPR Stage	Main Purpose	How the Group Works	Relevant Topics	Main Outputs
Pre-establishment/ Pre-regulation	Build a shared understanding of EPR design options and highlight relevant policy considerations ahead of formal adoption Support the operational design of core EPR institutions and mechanisms	Convened by a lead institution or neutral platform; thematic discussions are set in advance; members may bring their own studies, evidence and position papers; discussion is inclusive and exploratory, not decision-making; competing arguments are documented; a safe space is maintained for open exchange Working groups discuss institutional options and practical criteria, but do not formally approve them; they help test feasibility	All topics of steps 2 and 3 “Scoping” and “Design” and 4 “Regulations”	Discussion summaries, issue notes, policy options, consolidated stakeholder inputs, technical recommendations for government Draft criteria, operational options, governance recommendations, proposed institutional arrangements
Implementation/ Roll-out	Help troubleshoot initial implementation challenges and strengthen coordination among actors	Periodic thematic meetings; sharing of implementation experiences; identification of bottlenecks; clarification of roles; forum remains advisory and facilitative, not an enforcement body	All topics of step 5 “Implementation”	Implementation feedback notes, issue logs, practical recommendations, stakeholder coordination inputs
Operational/ Routine functioning	Provide an ongoing neutral space for stakeholder dialogue as the EPR system runs	Regular dialogue platform; evidence-based exchange; members can bring performance data, field findings and technical studies; forum explores considerations rather than forcing consensus	All topics of step 6 “Operations”	Operational insights, thematic briefs, shared learning notes, system improvement proposals

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7.3.2 Guidance Note: Roles and Functions of a Dialogue Platform across EPR Stages

EPR Stage	Main Purpose	How the Group Works	Relevant Topics	Main Outputs
Monitoring and evaluation	Review implementation evidence and provide independent multi-stakeholder input on system performance Feed lessons from implementation back into policy refinement and future design changes	Draws on monitoring data, registry reports, audit findings and stakeholder feedback; discusses whether targets, governance and implementation are working; may highlight compliance and transparency issues	Step 7.1 “Performance Assessment” Step 7.2 “Remediation Mechanisms”	Monitoring reflections, gap identification, recommendations for corrective action Evaluation inputs, policy adjustment proposals, recommendations on targets, scope, governance and incentives
Continuous improvement/ Iterative reform	Maintain a long-term knowledge and dialogue platform for repeated cycles of learning and system strengthening	Periodic reconvening; thematic working groups; use of studies, MoMs and practical evidence; open to emerging issues such as reuse, eco-modulation, informal sector inclusion and new reporting needs	All steps, all topics	Updated recommendations, thematic studies, roadmaps, recurring dialogue outputs

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7.3.3 Guidance note: Stakeholder Cooperation

Users: All

Handbook Reference: 4.1.3 Stakeholders and Lifecycle Stages Affected

Stakeholder	Key Interest	Potential Concern	Engagement Strategy	Possible Specific Actions
Producers	Cost efficiency, level-playing field	High compliance cost, data leakage and confidentiality, high administrative burden	Industry consultation	Join working groups at trade associations Design for recyclability (e.g. Packaging labeling, targets) Data protection protocols
Municipalities	Waste management funding	Unclear responsibilities, high administrative burden	Cost-sharing agreements, clear distinction of roles and responsibilities	Join working groups at national or municipal association level (discussing infrastructure, financing, source segregation, reporting)
Waste operators	Stable contracts, access to waste, customers for recycled polymers	Infrastructure investment	Highlight the business potential of epr	Join working groups around recyclability, recycling targets, technical standards, traceability Connecting with producers needing recycled content
Informal sector	Livelihood security	Risk of exclusion	Integration programs Informal sector associations gather and share concerns	Work at the association level (remuneration, health and safety, inclusion, materials quality)
NGOs	Environmental performance	Weak enforcement	Transparency mechanisms	Independent monitoring action Supporting initiatives with the informal sector, by joining existing associations and working groups

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7.3.4 Checklist: Steps Necessary to Establish Stakeholder Cooperation

Users: All

Handbook Reference: 4.7.4 Dialogue Platform

See also Toolkit: 1.3 Mapping Stakeholders

1 Establish a Structured Dialogue Platform

- [ ] Set up a formal multi-stakeholder platform
- [ ] Ensure representation of all key actors
- [ ] Define clear objectives and scope of meetings
- [ ] Schedule regular meetings and feedback loops

2 Define Roles and Responsibilities Clearly

- [ ] Map responsibilities of stakeholders
- [ ] Clarify roles of each stakeholder group
- [ ] Avoid overlaps and gaps
- [ ] Communicate responsibilities transparently

3 Facilitate Open and Inclusive Dialogue

- [ ] Ensure all stakeholders can express interests and concerns
- [ ] Use neutral facilitation
- [ ] Provide accessible formats
- [ ] Establish conflict resolution mechanisms

4 Ensure Continuous Engagement

- [ ] Maintain regular communication
- [ ] Track stakeholder inputs and responses
- [ ] Adjust engagement based on emerging concerns
- [ ] Encourage long-term commitment

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7.3.5 Checklist: Key Topics to Address while Establishing Stakeholder Cooperation

Users: All

Handbook Reference: 4.7.4 Dialogue Platform

See also Toolkit: 1.3 Mapping Stakeholders

1 Identify Stakeholder Positions Early

- [ ] Document key interests
- [ ] Identify potential concerns/risks (e.g. compliance costs, exclusion, unclear roles)
- [ ] Discuss timeline of EPR implementation

2 Policy and System Design

- [ ] Align EPR system design with stakeholder interests
- [ ] Address concerns related to:
  - regulatory burden
  - feasibility of targets
  - fairness of obligation

3 Roles, Responsibilities and Governance

- [ ] Ensure roles reflect stakeholder capacities and expectations
- [ ] Address concerns on:
  - unclear responsibilities
  - overlaps or accountability gaps
  - weak enforcement

4 Financing and Cost Allocation

- [ ] Reflect stakeholder financial interests (e.g. cost efficiency, funding security)
- [ ] Address concerns on:
  - high compliance costs
  - unfair cost distribution
  - administrative burden

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7.3.5 Checklist: Key Topics to Address while Establishing Stakeholder Cooperation

See also Toolkit: 1.3 Mapping Stakeholders

5 Operations and Infrastructure

- [ ] Consider operational needs and incentives (e.g. stable contracts, access to materials)
- [ ] Address concerns on:
  - infrastructure investment
  - access to waste streams

6 Data, Monitoring and Reporting

- [ ] Ensure data systems support stakeholder needs for transparency
- [ ] Address concerns on:
  - data confidentiality
  - reporting burden

7 Social Inclusion

- [ ] Reflect interests of vulnerable groups (e.g. livelihood security)
- [ ] Address concerns on:
  - exclusion of informal sector
  - unequal participation