SEA-MaP
SOUTHEAST ASIA REGIONAL PROGRAM ON COMBATING MARINE PLASTICS

Regional Guidebook on Phasing Out Single-Use Plastics



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Executive Summary

The regional guidebook provides a practical framework to support policymakers in ASEAN Member States (AMS in developing and implementing effective responses to single-use plastics (SUPs. It has been designed as a decision-support tool that translates regional experience, technical knowledge, and policy insights into actionable guidance.

Single use plastics remain one of the most persistent challenges to waste management and environmental governance in the region. Their widespread use is driven by affordability, convenience, and limited waste management capacity. The resulting impacts, from leakage to land and sea to open burning and rising municipal costs, highlight the need for aligned policy action: Addressing these challenges requires more than isolated measures or awareness campaigns. It calls for a combination of regulatory, financial, and behavioral instruments that can shift both production and consumption systems toward sustainability.

This guidebook helps meet that need by translating complex policy experience into practical, evidence-based steps that support AMS in building coherent, inclusive, and effective measures to reduce SUPs across all stages of the value chain.

The document is intended for national and subnational governments, technical agencies, and regulators working in waste management, pollution control, or circular economy planning. It also serves as a reference for regional bodies and development partners supporting SUP reduction efforts. Users may approach the guidebook as both a strategic reference and a hands-on tool for policy design, sequencing, and implementation.

The document first sets out the technical foundations, explaining the scope of SUPs, key concepts, and available policy instruments. It then presents regional insights that place these tools in context, outlining common challenges, lessons, and enabling conditions observed across AMS. Together, these sections build the knowledge base that precedes the decision-support tool, which then guides users through selecting, adapting, and implementing suitable policy measures.

The technical foundations form the analytical backbone of the guidebook. They define the scope of SUPs, clarify distinctions between packaging and non-packaging items, and introduce the 3R principle, which also forms a conceptual entry point for structuring policy responses in the decision process. The section further outlines ten key policy options for addressing SUPs, covering both direct and enabling instruments. Together, these insights establish a shared technical foundation that allows AMS to align terminology, assess policy readiness, and identify combinations of measures most relevant to their context.

Complementary, regional experience shows that policies work best when local leadership is strong, responsibilities are clear, and communication is consistent. Effective measures are phased in, engage affected stakeholders early, and align national direction with local delivery. Outcomes improve when informal workers are integrated into collection systems and when coordination across sectors is routine. Equally, policies are more durable when they target the main root causes of SUP use - convenience, cost and market signals, hygiene expectations, and structural gaps - rather than symptoms alone. Administrative and financial readiness matter: clear mandates, stable funding for implementation and

enforcement, and practical monitoring arrangements are preconditions for scale and credibility. Building on these lessons, ASEAN can support coherence across AMS by aligning terms, promoting comparable indicators, and convening peer learning to strengthen capacity and finance pathways.

The guidebook brings these insights together through three main entry points that reflect different starting points for policymakers. Users can structure their analysis and action by:

(i) applying the 3R principle of Reduce, Reuse, and Recycle

(ii) targeting specific SUP product categories such as carrier bags, expanded polystyrene containers, or sachets

(iii) examining policy instruments such as bans, taxes, or deposit-refund systems.

Once a policy option is selected, users are guided through two reflective check-ins. The first examines whether the chosen policy effectively addresses the underlying drivers of SUP dependence, and the second assesses whether existing administrative and financial systems are adequate for implementation.

Beyond offering structured entry points for policy selection (Section 2), the guidebook also provides strategic guidance on how AMS can build a coherent and impactful policy ecosystem over time. The three entry points allow policymakers to determine where to begin based on national priorities (Section 3). From there, regional implementation insights (Section 4) highlight enabling conditions (Section 4.1), essential requirements (Section 4.2), root cause analyses (Section 4.3) as well as critical guiding frameworks (Section 4.4) to support the development of coherent, system-level interventions that link upstream prevention, midstream reuse, and downstream management measures across producers, government institutions, and consumers. Finally, essential tools are used to assess environmental, social, economic, governance, and implementation impacts, enabling policies to be adapted and sequenced over time are provided (Section 5.2). Together, these elements support a structured transition from individual measures toward an integrated policy approach for phasing out SUPs in ASEAN.

The guidebook offers a transparent methodology for its development (Annex 1), and a structured presentation of 10 policy instruments effective at addressing SUP usage at various stages in the product life-cycle (Annex 2). The existing SUP policy landscape in ASEAN is mapped in Annex 3. Case studies and policy templates drawn from best practices across ASEAN and other global examples (Annex 4) complement the guidance by illustrating how different policy options have been applied in practice, what trade-offs emerged, and how capacity and sequencing affected results. These best practice examples are supported by further reading in Annex 5. In doing so, the guidebook functions as both a practical manual and a regional reference, offering policymakers a pathway to design policies that are context-specific, evidence-based, and aligned with broader ASEAN goals for circularity and marine protection.

List of Acronyms

Acronym	Expanded Form
3R	Reduce, Reuse, Recycle
AMS	ASEAN Member States
ASEAN	Association of Southeast Asian Nations
AWGCME	ASEAN Working Group on Coastal and Marine Environment
ASTM	American Society for Testing and Materials
BCRD Ltd	Beverage Container Return Scheme Ltd.
BCRS	Beverage Container Return Scheme
BDT	Bangladeshi Taka
BN	Brunei Darussalam
BND	Brunei Darussalam Dollar
BYOB	Bring Your Own bottle
BYOC	Bring Your Own Carrier
CAPEX	Capital Expenditure
DENR	Department of Environment and Natural Resources (Philippines-specific term)
DRS	Deposit Refund System
e.g.	Exempli gratia
EPR	Extended Producer Responsibility
EPS	Expanded Polystyrene
EPT	Viet Nam´s Environmental Protection Tax (Viet Nam-specific term)
EU	European Union
EUR	Euro
F&B	Food & Beverage

FSC	Forest Stewardship Council
FTE	Full Time Equivalent
GAIA	Global Alliance for Incinerator Alternatives
GHG	Greenhouse Gas
HACCP	Hazard Analysis and Critical Control Points
i.e.	Id est
ID	Indonesia
IRR	Implementing Rules and Regulations
ISO	International Organization for Standardization
IWW	Informal Waste Workers
kg	Kilogram
KH	Cambodia
KRW	Korean Won
LGU	Local Government Units (Philippines-specific term)
LMICs	Low- and Middle-Income Countries
M&E	Monitoring and evaluation
M2	Square meter
MBPP	Majlis Bandaraya Pulau Pinang (Malaysia-specific term)
MBSP	Majlis Bandaraya Seberang Perai (Malaysia-specific term)
MNCs	Multi National Companies
MSMEs	Micro, small and medium enterprises
MY	Malaysia
MYR	Malaysian Ringgit
N/A	Not Applicable
NEA	National Environment Agency (Singapore-specific term)
NGO	Non-governmental organization

OPEX	Operational Expenditure
PE-HD	Polyethylene High Density
PE-LD	Polyethylene Low Density
PET	Polyethylene Terephthalate
PGC	Penang Green Council
PH	Philippines
PHP	Philippine Peso
PLA	Polylactic Acid
PP	Polypropylene
PRO	Producer Responsibility Organisation
PUA	Problematic, Unnecessary & Avoidable
SDG	Sustainable Development Goals
SEK	Swedish Krona
SG	Singapore
SGD	Singapore Dollar
SMF	Singapore Manufacturing Federation
SUP	Single Use Plastics
TH	Thailand
USD	United States Dollar
VN	Viet Nam
VND	Viet Namese Dong

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1 Preface

Single-use plastics (SUPs) remain a major environmental and governance challenge across the Member States of the Association of Southeast Asian Nations (ASEAN). Items such as plastic bags, straws, cutlery, and packaging are widely used because they are cheap and convenient. However, limited waste collection and treatment capacity has led to open burning, unregulated landfilling, and leakage into rivers and coastal areas. These practices contribute to greenhouse gas emissions and impose high management costs on local authorities.

In response, ASEAN Member States (AMS) have adopted diverse policy measures ranging from bans and fiscal instruments to Extended Producer Responsibility (EPR) frameworks. Despite these efforts, implementation remains uneven due to gaps in administrative capacity, coordination, and data availability, as well as inconsistent enforcement and the limited accessibility of viable alternatives.

This *Regional Guidebook on Phasing Out Single-Use Plastics* has been developed under the Southeast Asia Regional Program on Combating Marine Plastics (SEA-MaP), implemented by the ASEAN and funded by the World Bank, with technical support provided by the United Nations Office for Project Services (UNOPS). It supports the implementation of Action 2 of the ASEAN Regional Action Plan for Combating Marine Debris (2021–2025) by providing policymakers with a practical, regionally aligned framework for designing, adapting, and implementing effective, evidence-based measures to phase out SUPs. Drawing on analytical insights from SEA-MaP, the Guidebook offers decision-making tools that AMS can tailor to national contexts, ensuring that actions to reduce SUPs are technically sound, socially equitable, and economically viable.

The development of this *Guidebook* has benefited from close collaboration between ASEAN Member States, the ASEAN Secretariat, the SEA-MaP Project Management Unit, UNOPS, the World Bank, and regional experts. It reflects a shared commitment to advancing sustainable solutions that balance environmental protection, economic resilience, and social inclusion. The authors acknowledge the contributions of all stakeholders who participated in consultations, shared their national experiences, and helped shape the evidence base that underpins this publication.

More information on the background of the *Guidebook* can be found in Annex 1. [click here]

2 Introduction

2.1 Purpose and Scope

The Guidebook is intended as a decision-support tool for policymakers and technical agencies responsible for designing and implementing policies that address SUPs. It consolidates regional evidence, compares existing policy instruments, and outlines guiding principles for implementation. Through an interactive and modular structure, users can explore policy options from different entry points - starting from the 3R principle (Reduce, Reuse, Recycle), specific product categories, or pre-selected policy measures such as bans, levies, or EPR systems.

It guides users through a structured process to:

- Identify and analyze the root causes of SUP consumption.
- Assess administrative and financial readiness for policy implementation.
- Select appropriate policy measures and tailor them to national contexts.
- Plan for enforcement, stakeholder engagement, and monitoring.
- Link national efforts to ASEAN and global commitments on plastic pollution.

2.1.1 Target Audience

The *Guidebook* is designed primarily for national and sub-national policymakers, regulators, and ASEAN Member States who are responsible for waste management, resource efficiency, or circular economy planning. It also serves as a practical reference for implementing agencies, regional institutions, and development partners engaged in supporting SUP reduction initiatives. Its modular layout allows readers to focus on sections most relevant to their policy needs, whether developing new legislation, updating national action plans, or assessing existing interventions. Because the guidebook is a cross-cutting, regional tool, implementing policymakers are highly encouraged to adapt the guidance to their country's individual context, existing action plans/roadmaps, national reporting requirements and implementation timelines relevant to national planning cycles. Support for how to consider individual country contexts when developing SUP policies is provided via the "check-in points" and contextual recommendations in Section 5. [Click here]

2.1.2 Integration with the ASEAN Regional Action Plan on Combatting Marine Debris and Complementary Tools

The *Guidebook* complements other technical resources developed to support the ASEAN RAP:

- The *Extended Producer Responsibility (EPR) Handbook and Customized Toolkit,* which provides guidance on designing EPR systems and financial mechanisms.
- The *Best Practice Manual on Minimum Standards and Technical Requirements for Plastic Packaging and Labelling*, which supports harmonization of standards for packaging and labelling across the product lifecycle.

Together, these tools form an integrated resource package supporting ASEAN Member States in strengthening policy coherence, promoting circular economy approaches, and aligning national efforts with regional and international frameworks - including the ongoing development of a global agreement on plastic pollution.

To read more on the development of this *Guidebook* and on the underlying methodology, see Annex 1. [Click here]

2.1.3 Navigating the Guidebook

The G*uidebook* is structured to follow a clear and logical sequence:

1. Technical Foundation (Section 3): Defines key concepts, policy categories, and illustrative case studies. [Click here]
2. Regional Landscape (Section 4): Summarizes policy experiences, administrative considerations, and lessons learned across AMS. [Click here]
3. Guiding Policy Decision-Making (Section 5): Provides entry points, diagnostic check-ins, and ten detailed policy options. [Click here]
4. Annexes (Section 6): Present methodology, sources, and references for further reading. [Click here]

Each section can be used independently or as part of the overall decision-making process. This flexible structure allows policymakers to navigate the *Guidebook* according to their specific needs, ensuring it functions as both a reference tool and a roadmap for effective SUP policy implementation across ASEAN.

3 Technical Foundation

Definition & Scope

SUPs are plastic products designed for one-time use before disposal, recycling, or incineration. These items are characterized by short lifespans, low material value, and a high risk of environmental leakage. Across ASEAN, such plastics represent a significant share of mismanaged waste, in 2021, six AMS[1] generated ~8.4 million metric tons of mismanaged plastic waste. This type of waste is also one of the main contributors to terrestrial and marine litter (World Bank, 2024).

To maintain clarity and consistency across Member States, the *Guidebook* distinguishes between two principal categories:

- **Packaging SUPs:** items primarily intended to contain, protect, handle, deliver, or present goods. This category includes carry bags, bottles, sachets, wrappers, cups, and food containers. Visible, single-use packaging items - plastic bags, bottles, wrappers, and food containers - make up nearly half of all identifiable litter worldwide, with plastic comprising four-fifths of total items. These products dominate coastal and nearshore pollution, confirming that **packaging SUPs are the most abundant and conspicuous fraction of visible marine litter** (Morales-Caselles et al., 2021).
- **Non-packaging SUPs:** items used mainly for convenience or hygiene, such as straws, stirrers, cutlery, plates, and balloons. These products are typically small, lightweight, and not economically recyclable due to being contaminated with food items and size limitations.

This categorization acknowledges the absence of harmonized packaging definitions across ASEAN and recognizes that many products - such as carrier bags, straws, and cutlery - function both as packaging components and standalone consumer items. These items are widely targeted by regulations worldwide due to their environmental persistence and availability of alternatives.

The scope therefore covers common SUPs, including food-service items (e.g., straws, cutlery and tableware, stirrers, trays) and key packaging items such as carrier bags, beverage bottles, sachets, wrappers, and EPS and takeaway food containers, and non-packaging items such as cotton bud sticks.

These products are generally linked to convenience consumption, are used in high volumes, and are discarded alongside other packaging waste. Their inclusion supports a comprehensive assessment of policies aimed at consumption reduction, substitution, and reuse models.

The *Guidebook* focuses on SUPs that are short-lived, avoidable, or replaceable and that display a high likelihood of leakage into the environment. Durable and essential plastic products, such as medical plastics, construction materials, or industrial components, are outside the current scope. In addition, the following SUP categories are also outside the scope of this *Guidebook* due to distinct regulatory, technical, or safety considerations:

- Packaging for hazardous substances or medical appliances, and items used in transport and logistics (e.g., stretch films, PET straps). These are regulated separately due to their health, safety, and operational importance and the limited availability of viable alternatives.
- Fishing gear, though considered SUP in some jurisdictions, is excluded due to its specialized use, unique environmental risks, and separate regulatory frameworks.

[1] Cambodia, Indonesia, Malaysia, the Philippines, Thailand, and Viet Nam

- Chemical-specific phase-outs (e.g., additives or microplastics in cosmetics) are not addressed. The *Guidebook* focuses strictly on the item level, not on substances within plastics.

Table 1: Summary of SUP Items Included vs. Excluded from Scope

Included	Excluded
Disposable packaging (bags, sachets, wrappers)	Durable multi-use plastics
Plastic cutlery, cups, straws, stirrers	Industrial components or medical plastics
Lightweight takeaway containers	Products with long-term functionality

The classification is consistent with the ASEAN Regional Action Plan for Combating Marine Debris (2021–2025) and aligns with the ongoing international developments toward a global agreement on plastic pollution.

3.1 The 3R Principle

The '3R principle of Reduce, Reuse, Recycle' provides a practical foundation for structuring policy responses to SUPs. It is widely recognized as a hierarchical framework for transitioning toward circular systems, consistent with ASEAN's commitments under the Regional Action Plan for Combating Marine Debris (2021–2025) and emerging global agreements. Almost all AMS have integrated reuse and recycling measures into their National Action Plans. At the regional level, AMS reaffirmed their commitment to advancing 3R approaches through the 2019 Bangkok Declaration on Combating Marine Debris (ERIA, 2024).

The 3R framework underscores a clear sequence of action:

1. **Reduce** eliminating or minimizing SUP consumption;
2. **Reuse** promoting practical alternatives that extend product lifecycles applicable to the country's context; and
3. **Recycle** ensuring discarded SUPs are reprocessed into new products.

Together, the 3Rs help AMS design strategies that minimize SUP consumption, enhance material efficiency, and reduce environmental leakage.

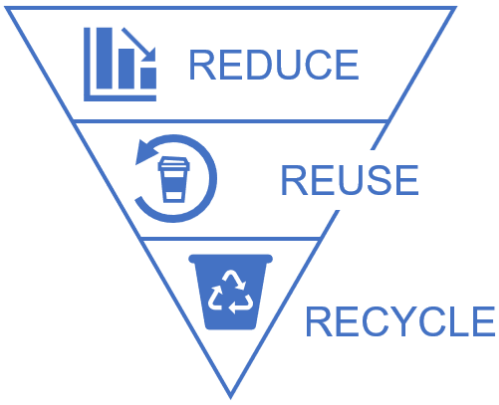


Figure 1:The 3R Principle as a Hierarchical Framework for Addressing Single-Use Plastics

3.1.1 Reduce – Cutting Plastic Use at the Source

Definition: Reducing refers to policies and practices that minimize or eliminate the consumption of SUP items before they are placed on the market.

Policy relevance[2]:

- Reducing SUP consumption directly tackles the root cause of marine debris by lowering the quantity of products that could become waste.

[2] OECD (2024). Policy Scenarios for Eliminating Plastic Pollution by 2040. https://www.oecd.org/en/publications/policy-scenarios-for-eliminating-plastic-pollution-by-2040_76400890-en/full-report.html

- These measures are often cost-effective for governments because they prevent downstream waste management costs.
- Reduction policies drive innovation in product design and material substitution, supporting the emergence of regional green industries.

Examples of application:

- Bans and restrictions on specific SUPs, such as plastic bags, straws, or polystyrene containers. [click here]
- Market-based instruments like levies or taxes that disincentivize SUP consumption. [click here]

Key considerations for AMS: Reduction policies can face resistance from producers and retailers, requiring consultation and awareness campaigns to build public acceptance. For additional guidance, see Section 5 on policy implementation. [click here]

3.1.2 Reuse – Extending the Lifecycle of Products



Definition: Reuse focuses on promoting systems and products that can be used multiple times, thereby reducing the demand for single-use items.

Policy relevance[3]:

- Reuse bridges the gap between reduction and recycling by shifting consumer and business behavior away from disposability.
- It fosters circular business models, such as refill, rental, or return schemes, that generate employment and innovation opportunities.
- For AMS with limited recycling infrastructure, reuse offers a practical pathway to reduce waste volumes.

Examples of application:

- Deposit-refund systems for multi-use beverage containers. [click here]
- Reusable packaging mandates in retail or food service sectors. [click here]
- Incentives for businesses adopting refill or container-return logistics. [click here]

Key considerations for AMS: Reuse systems require investments in logistics, infrastructure, and consumer education. Success depends on supportive regulations, financial incentives, and consistent monitoring to ensure real uptake.

3.1.3 Recycle – Returning Materials into the Economy



Definition: Recycling refers to the collection, sorting, and reprocessing of SUP waste into secondary raw materials that can be used to produce new products. Through sound treatment of waste via recycling, SUP litter in the environment and other unsafe disposal practices such as open burning and dumping can be effectively reduced.

[3] UNEP (2023). Turning off the Tap: How the world can end plastic pollution and create a circular economy. https://wedocs.unep.org/bitstream/handle/20.500.11822/42277/Plastic_pollution.pdf?sequence=3

[4] World Bank (2022). What a Waste 2.0: A Global Snapshot of Solid Waste Management to 2050. https://documents.worldbank.org/en/publication/documents-reports/documentdetail/697271544470229584

Policy relevance[4]:

- Recycling reduces plastic leakage and contributes to resource efficiency and circular economy development.
- It supports AMS targets for waste diversion, green job creation, and domestic recycling industries.
- Recycling data provides valuable indicators for monitoring progress, including towards SDG 12.5 on waste reduction.

Examples of application:

- EPR schemes requiring producers to ensure collection and recycling of SUP waste. [click here]
- Product design standards that improve recyclability. [click here]
- Labelling schemes that inform consumers and promote proper waste segregation. [click here]

Key considerations for AMS: Recycling effectiveness depends on source segregation, efficient collection systems, and viable end-markets for recycled materials. Informal waste workers play an essential role and should be integrated into formal frameworks to ensure equitable outcomes.

3.2 Selected Policy Options

Ten key policy options have been identified for their potential to reduce the production and consumption of SUPs. Experience across ASEAN shows that no single measure is sufficient on its own; rather, an effective strategy combines several complementary instruments that reinforce each other when properly designed and implemented.

These options encompass both direct and indirect policy measures operating at different stages of the plastic value chain.

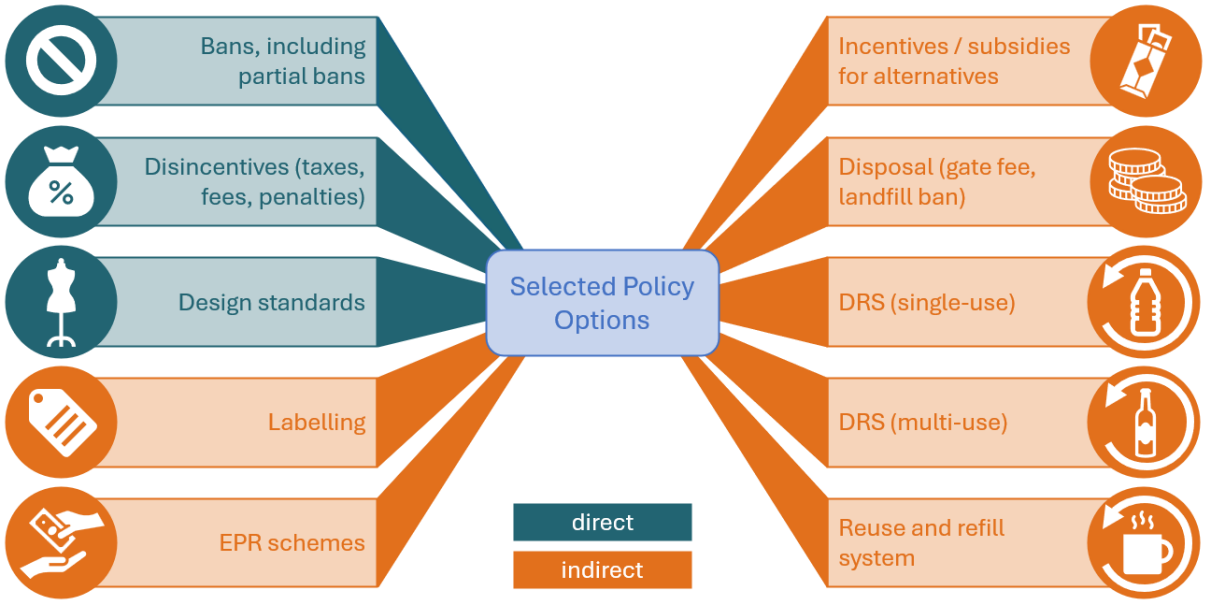


Figure 2: Overview of Direct and Indirect Policy Instruments Across the SUP Value Chain

Direct policies establish explicit and enforceable requirements or restrictions targeting SUP products themselves. They act directly on product design, material use, or market availability to eliminate unnecessary plastics at the source. Typical instruments include bans and partial bans, disincentives such as taxes or fees, and design standards that set specific requirements for recyclability, thickness, or recycled content. These measures deliver immediate impact by

removing or modifying problematic products and influencing producer and consumer behaviour at the point of use.

Indirect policies, by contrast, shape the enabling conditions for sustained reduction and circularity. They do not directly restrict SUPs but foster supportive systems, incentives, and infrastructure that make reduction feasible and cost-effective. Examples include labelling schemes, EPR frameworks, incentives or subsidies for alternatives, disposal regulations (e.g., landfill bans or gate fees), DRS for single- and multi-use items, and reuse or refill systems. These measures operate across the broader value chain - collection, recycling, reuse, and market transformation - to build the institutional and economic foundations for long-term change.

Table 2: Direct vs. Indirect Policy Measures for SUP Reduction in ASEAN

Aspect	Direct Measures	Indirect Measures
Core Function	Regulate or restrict SUPs directly at the product level	Enable reduction through systemic and market-based interventions
Primary Objective	Prevent or minimize SUP use at the source	Support long-term reduction, reuse, and recycling
Mechanism	Legally binding requirements, standards, or charges on products	Institutional, economic, and informational measures that create enabling conditions
Key Policy Instruments	Bans and partial bans Disincentives (taxes, fees, penalties) Design standards	Labelling schemes EPR frameworks Incentives or subsidies for alternatives• Disposal regulations (gate fees, landfill bans) DRS (single-use) DRS (multi-use) Reuse and refill systems
Leverage Point in Value Chain	Production, import, and sale stages	Collection, reuse, recycling, and market transformation
Expected Timeframe for Impact	Short- to medium-term	Medium- to long-term
Illustrative Outcome	Immediate reduction in targeted SUP items	Sustained shift toward circular and resource-efficient systems

Table 3: 10 Selected Direct and Indirect Policies and their Description

Policy	Description	Type
Bans, including partial bans	Prohibit, either fully or partially, the production, import, distribution, or sale of targeted SUPs. Bans are among the most ambitious measures, directly removing problematic items from markets. They may apply nationally or at subnational levels, or focus on specific environments (e.g., protected areas, public institutions) and sectors (e.g., retail,	Direct

Policy	Description	Type
	hospitality). **Phased approaches are often recommended to allow adaptation and to minimize socio-economic impacts.**	
Disincentives (taxes, fees, penalties)	Introduce charges on SUPs to discourage consumption and internalize environmental costs. These can take the form of taxes on plastic bags, levies at the point of sale, or penalties for non-compliance. Their effectiveness depends on the level of the charge, enforcement capacity, and accompanying awareness campaigns. **When set sufficiently high, such measures have proven effective in reducing demand[5].**	Direct
Design standards	Mandate changes to product or packaging design to improve recyclability, reduce material intensity, or increase recycled content. These can include requirements for mono-material packaging, thickness standards, or prohibitions on non-recyclable formats. **While it is possible to use such guidelines as voluntary guidance, mandatory standards provide stronger incentives for producers to innovate and shift to sustainable designs.**	Direct
Labelling	Provide voluntary or mandatory labels to inform consumers and businesses of environmental characteristics (e.g., recyclability, composability, disposal instructions). **Labelling enhances transparency but is only effective when supported by reliable waste management systems and consumer awareness.**	Indirect
EPR schemes	Assign financial and/or operational responsibility to producers for managing post-consumer plastic packaging. Producers may comply individually or collectively through Producer Responsibility Organizations (PROs). Effective EPR frameworks establish binding mass-based waste reduction, recovery and/or recycling targets, eco-modulated fees, and monitoring systems. They can also incentivize design improvements and create stable demand for secondary materials[6].	Indirect

[5] Empirical evidence confirms that financial disincentives (taxes, fees, levies) on single-use plastics can generate substantial demand reductions **when** the charge is meaningful, visible and backed by enforcement and awareness. For instance, in England the introduction of a mandatory £0.05 charge per single-use plastic carrier bag in 2015 was followed by an overall drop of more than 98% in bag use among major retailers (https://www.gov.uk/government/news/plastic-bag-use-falls-by-more-than-98-after-charge-introduction?). In another study of retailer behaviour and pricing, researchers found that the **level of the charge matters**: in experimental settings, modest charges had weaker effects while higher pricing points produced greater reductions in bag use (https://www.sciencedirect.com/science/article/abs/pii/S0272494414000863?). Altogether, these findings support the statement that **sufficiently high and visible charges, combined with enforcement and public awareness**, are key for disincentive policies to succeed in reducing consumption of single-use plastics.

[6] EPR systems can play a catalytic role in stabilizing markets for secondary materials by linking producer obligations directly to measurable recovery and recycling outcomes. When fee structures are calibrated through eco-modulation - rewarding products that incorporate recycled content - producers gain a continuous economic incentive to source post-consumer recyclates. This, in turn, generates predictable demand signals for recyclers and material recovery facilities, reducing price volatility in secondary plastics markets. International experience suggests that transparent target-setting, performance-based fee differentiation, and reliable data reporting systems are essential to sustaining this feedback loop. Where implemented alongside quality standards for secondary raw materials, EPR frameworks can transform waste streams into consistent input markets, thereby reinforcing both fiscal sustainability and circular development (https://www.basel.int/Portals/4/download.aspx?d=UNEP-CHW-OEWG.11-INF-7.English.pdf)

Policy	Description	Type
Incentives or subsidies for alternatives[7]	Provide targeted support for alternatives and substitutes to SUPs, including grants, tax incentives, or subsidies. These measures aim to stimulate markets for reusable or compostable options, but success depends on the availability of infrastructure (e.g., composting facilities) and caution against promoting materials that cannot be properly processed. **Poorly designed incentives risk shifting the problem rather than solving it.**	Indirect
Disposal (gate fee, landfill ban)	Apply disposal charges (tipping fees) or ban the landfilling of certain plastics to divert waste towards higher-value treatment options. Gate fees make landfilling more expensive relative to recycling, while bans eliminate landfill as an option altogether. Successful application requires sufficient recycling and recovery capacity to prevent unintended consequences such as illegal dumping or burning.	Indirect
DRS (single-use)	Introduce refundable deposits on selected single-use items (e.g., PET bottles) to increase collection and recycling rates. DRS systems can achieve return rates above 90% but require advanced monitoring, clearing systems, and strong administrative capacity.	Indirect
DRS (multi-use)	Apply deposits to multi-use packaging items, creating financial incentives for consumers to return durable containers for reuse. These systems require coordinated logistics, harmonized standards, and reliable clearing mechanisms. While potentially costly to establish, they can provide the backbone for large-scale reuse models.	Indirect
Reuse and refill system	Support business models that reduce reliance on SUPs through refill-at-home, refill-on-the-go, return-from-home, or return-on-the-go schemes. These models extend product lifecycles, reduce waste generation, and support a shift to circular consumption patterns. Their success depends on regulatory support, infrastructure investment, and, in some cases, complementary bans to drive uptake.	Indirect

Additional detail for each policy option can be found in Annex 2 [Click here]

[7] It is important to exercise caution when focusing excessively on bio-based or biodegradable alternatives. While these may be promoted as solutions, bio-based options may not effectively address plastic pollution, because biodegradable solutions exhibit varying degrees of biodegradability. Furthermore, many waste management systems in the region are ill-equipped to properly handle biodegradable materials, potentially rendering them counterproductive.

4 Regional Landscape: Insights from ASEAN

4.1 Lessons Learned of SUP Policy Implementation across AMS

Across the ASEAN region, governments have demonstrated increasing commitment to addressing the environmental impacts of SUPs. Over the past decade, most Member States have introduced national action plans, roadmaps, or sector-specific strategies that articulate ambitions to reduce plastic waste and improve circularity. This growing momentum reflects regional alignment under the ASEAN Regional Action Plan on Combating Marine Debris (2021–2025) and the evolving global agenda on plastics.

However, many of these policy frameworks remain aspirational. While legislation and pilot programs are emerging, implementation often lags behind due to institutional, economic, and behavioral constraints. The lessons summarized below are based on the comparative analysis of ten key policy instruments and their implementation across AMS. The analysis identifies what has worked, what remains challenging, and which factors consistently influence effectiveness. Rather than providing a quantitative comparison, this section distils practical insights that can inform future policy design and support longer-term regional coherence.

For a mapping of SUP policy implementation across AMS, see Annex 3. [click here]

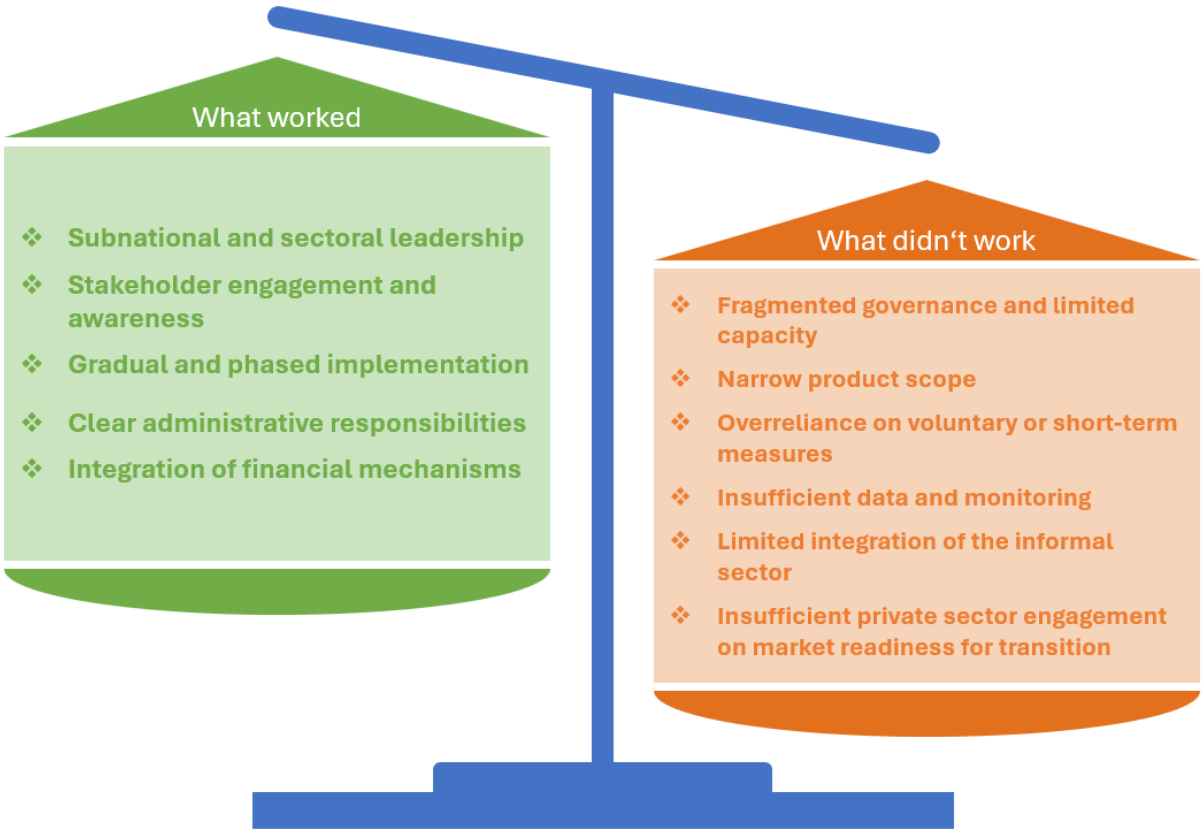


Figure 3: Lessons Learned from SUP Policy Implementation across ASEAN

4.1.1 Implementation Enablers – What Works

Subnational and Sectoral Leadership

Local and sector-specific measures have proven particularly effective when mandates are clear and enforcement capacity is strong. Subnational administrations are often closer to communities and can tailor interventions to local conditions, such as waste collection systems or retail practices. Similarly, sectoral policies targeting areas like food service, tourism, or public procurement benefit from well-defined operational boundaries and focused communication.

These experiences show that decentralized leadership, when supported by national guidance, can significantly improve compliance and public visibility.

Stakeholder Engagement and Awareness
Policies developed through consultation with affected groups achieve higher acceptance and more consistent implementation. Engagement with industry, civil society, and local authorities not only builds legitimacy but also allows governments to anticipate compliance barriers. Continuous public communication linking policy requirements to environmental benefits can foster behavioral change and reduce resistance from retailers and consumers.

Gradual and Phased Implementation
A stepwise introduction of policy measures enables adaptation and learning. Policies that include pilot phases, defined transition periods, or progressive enforcement achieve more durable results. Gradual implementation allows businesses time to adjust production processes and supply chains, while governments can refine mechanisms based on feedback before scaling up nationally.

Clear Administrative Responsibilities
Successful policies clearly define who is responsible for implementation, monitoring, and enforcement. Where mandates are divided among multiple agencies, progress tends to stall. Well-functioning measures include structured coordination between ministries, local authorities, and industry actors, coupled with transparent penalties and reporting requirements.

Integration of Financial Mechanisms
Economic tools such as fees, taxes, or subsidies enhance policy effectiveness when they are well designed and linked to broader SUP reduction objectives. Financial measures work best when revenues are transparently reinvested in complementary activities, such as awareness campaigns or alternative materials. When embedded in a wider strategy, they can incentivize both producers and consumers to shift away from disposables.

4.1.2 Common Barriers – Why Policies Fall Short

Fragmented Governance and Limited Capacity
Institutional fragmentation remains a major constraint. Overlapping mandates, weak coordination across ministries, and limited municipal capacity reduce policy coherence. A common challenge is that the Ministry of Environment often leads the policy effort on waste management but is not directly responsible for operational management, which typically falls under local governments or other sectoral ministries. This division creates gaps between policy design and implementation, as environmental authorities may lack the levers to ensure compliance or mobilize resources effectively. Implementation further suffers when enforcement responsibilities are unclear or under-resourced, leading to inconsistent compliance across jurisdictions.

Narrow Product Scope
Most regulatory measures still focus primarily on lightweight plastic bags, leaving other high-impact items such as sachets, multilayer films, and food containers unregulated. This limits systemic impact and can shift consumption toward unaddressed products.

Overreliance on Voluntary or Short-Term Measures
Voluntary approaches, pilot campaigns, and temporary bans can create momentum but lack durability without regulatory backing. Without clear timelines for transition into binding measures, voluntary tools risk becoming symbolic rather than transformative.

Insufficient Data and Monitoring
Data gaps persist across all policy types. Few Member States have systems to track SUP consumption, reduction rates, or environmental outcomes. The absence of baselines and measurable indicators prevents assessment of policy impact and weakens opportunities for adaptive management.

Limited Integration of the Informal Sector
Informal workers play a critical role in waste collection and material recovery across the region, yet few policies formally recognize or support their contributions. Excluding these actors limits both environmental and social outcomes, especially for Extended Producer Responsibility (EPR) and recycling frameworks that depend on broad collection coverage.

Insufficient Private Sector Engagement on Market Readiness for Transition
Implementation often begins without structured transition mechanisms. Rapid enforcement of bans or taxes without sufficient consultation or market readiness leads to confusion, stockpiling, and non-compliance. Phased and well-communicated transitions consistently prove more effective.

4.1.3 Lessons for Future Policy Design

Regional experience shows that SUP policies succeed when designed as part of a coherent system that links enforcement, incentives, and communication. Bans or levies alone cannot drive change without enabling infrastructure and behavioral support. Policies that combine regulatory clarity with stakeholder engagement and economic instruments achieve more consistent results. Learning-oriented implementation, through pilots, monitoring, and periodic review, further enhances policy resilience and legitimacy.

Looking forward, ASEAN Member States can draw three overarching lessons:

1. **Integrate approaches:** Combine regulatory measures, financial tools, and behavioral interventions to address multiple drivers of SUP use simultaneously.
2. **Invest in capacity:** Strengthen administrative systems and monitoring structures to ensure that policies translate from commitment to implementation.
3. **Foster collaboration:** Promote coordination between national and subnational levels, between public and private sectors, and across ASEAN to share data, lessons, and innovations.

These lessons underscore that effective SUP reduction is not about the number of policies in place, but about the quality of their design, the strength of their implementation, and the inclusiveness of their approach.

4.2 Administrative and Financial Requirements in SUP Policy Implementation

Effective implementation of SUP policies depends as much on institutional capacity and financing as on policy design itself. Across ASEAN Member States, diverse administrative structures and funding models have been established to operationalize bans, levies, and producer responsibility systems. Yet, these experiences reveal recurring challenges: fragmented mandates, limited enforcement capacity, and uneven allocation of financial responsibilities.

4.2.1 Institutional and Administrative Frameworks

Across AMS, SUP policies are most often anchored within environmental legislation, typically led by ministries of environment or natural resources. Implementation frequently requires coordination with ministries of industry, trade, finance, and local government authorities. This inter-ministerial structure reflects the cross-sectoral nature of plastics governance but also exposes policies to fragmentation and overlapping responsibilities.

Most reviewed policies specify organizational and procedural arrangements, including the legal basis, implementing authority, and cooperation with other agencies. However, operational aspects such as capacity, staffing needs, and target setting are rarely detailed in public documentation. These omissions often translate into implementation delays or inconsistent enforcement. Local governments play a growing role in enforcement and awareness activities, yet their mandates and budgets are often unclear or insufficiently supported by national frameworks.

Stakeholder participation in policy formulation has been a consistent strength. Consultations commonly involve ministries, industry associations, civil society organizations, and the public. This inclusive process improves policy legitimacy and encourages voluntary compliance. However, systematic engagement during the implementation and monitoring phases remains limited.

4.2.2 Enforcement and Monitoring Mechanisms

Monitoring and enforcement represent the most persistent administrative challenges. While most AMS specify responsible authorities, many enforcement agencies lack staff, resources, or technical capacity to carry out inspections and reporting. Penalties for non-compliance are often defined but rarely enforced, and data on violations are seldom disclosed.

Some AMS rely on voluntary self-reporting by producers or retailers, especially for design and labelling measures. This approach can raise awareness but lacks accountability mechanisms. Regular progress reports, audit procedures, and data-sharing between national and local levels remain the exception rather than the rule.

Improved coordination between central and local governments would help ensure consistency in enforcement, while investment in training and data systems would strengthen compliance monitoring. Without such mechanisms, even well-designed SUP measures risk limited impact.

4.2.3 Financial Mechanisms and Funding Models

Financial arrangements underpinning SUP policies vary across AMS but generally fall into three categories:

1. **Public Funding:** Administrative operations, awareness campaigns, and enforcement activities are often financed through national or local budgets. Dedicated budget lines for SUP management remain limited, and funding is typically absorbed into broader environmental programs.

2. **Market-Based Instruments:** Several AMS use taxes or levies on plastic products to discourage consumption and generate revenue for environmental initiatives. However, earmarking of revenues for waste reduction or alternative materials remain limited, reducing long-term policy effectiveness.
3. **Producer Responsibility and Cost Sharing:** EPR schemes are emerging as a central mechanism to distribute financial responsibility between producers, retailers, and consumers. Yet, operational costs and fee structures remain uneven, and transparency on how funds are allocated or used is limited.

Funding origin is generally well defined, but information on the cost of implementation and enforcement is rarely disclosed, for reasons such as a lack of availability. The absence of such data makes it difficult to evaluate fiscal sustainability or to forecast future resource needs. Subsidies and incentives for alternatives exist in some AMS but remain small in scale and are not always supported by infrastructure for composting or recycling, reducing their effectiveness.

A key finding is that predictable and transparent financing is essential to sustain implementation. Integrating SUP management into regular budget planning - rather than relying on project-based or donor funding - can help ensure policy continuity.

4.2.4 Cross-Cutting Challenges and Lessons Learned

The comparative analysis of AMS case studies reveals a set of recurring administrative and financial challenges:

Table 4: Responses for Administrative and Financial Challenges

Category	Common Challenges	Response
Institutional Coordination	Overlapping mandates and weak inter-agency communication	Establish clear institutional mandates and coordination mechanisms
Capacity and Resources	Limited staffing and technical capacity at local level	Allocate dedicated budgets and provide regular training for enforcement agencies
Monitoring and Data Systems	Absence of consistent indicators and reporting tools	Develop unified monitoring frameworks and data-sharing platforms
Financial Planning	Weak cost assessment and ad hoc funding	Integrate SUP measures into annual national and municipal budgets
Private Sector Participation	Limited financial contribution and compliance monitoring	Strengthen EPR systems and introduce eco-modulated fees
Transparency and Accountability	Lack of public reporting on revenues and outcomes	Link enforcement data and

Across all policy types, measurement of outcomes remains inconsistent. Measures such as bans or EPR schemes lend themselves more easily to monitoring, while design standards, labelling, or incentives lack clear performance indicators. Strengthening definitions and creating standardized reporting templates would allow policymakers to track environmental and socioeconomic outcomes more systematically.

This regional experience demonstrates that administrative and financial foundations are decisive in determining policy effectiveness. While organizational frameworks are often well defined, enforcement and cost planning require greater attention. Embedding SUP management into existing institutional and fiscal systems, supported by clear mandates and transparent budgeting, will be critical to sustaining progress. By systematically addressing these operational gaps, compliance can be strengthened, equitable cost-sharing ensured, and institutional resilience strengthened for enduring reductions in SUP consumption and environmental leakage.

4.3 Root Causes of SUP Usage in AMS - Understanding the Drivers of SUP Dependence

The persistence of SUPs in ASEAN economies reflects a combination of economic, behavioral, and structural dynamics that have developed over decades. Understanding these root causes is essential to designing effective policies that go beyond short-term bans or awareness campaigns. Theoretical root causes describe the systemic, economic, behavioral, and regulatory factors that have enabled plastic consumption and made SUPs deeply integrated into daily life. They explain why SUPs continue to dominate packaging systems despite rising public awareness and growing political commitment to address plastic pollution.

These factors evolved over time in response to shifts in population, urbanization, and globalization. From the early drivers of convenience and hygiene to more recent trends linked to e-commerce and pandemic-related consumption, the region's reliance on SUPs has been shaped by both direct mechanisms, such as affordability and material availability, and broader societal expectations around safety, hygiene, and modern living. The following section outlines how these root causes emerged and how they can be classified to inform effective policy design.

4.3.1 Evolution of Root Causes Over Time

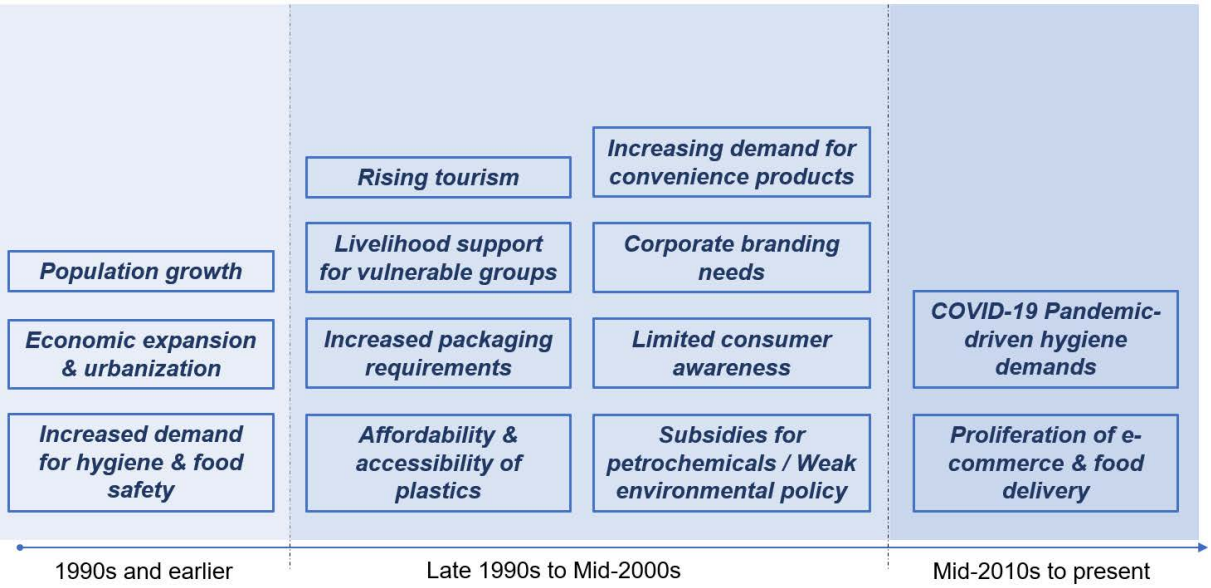


Figure 4: Evolution of Root Causes Driving SUP Dependence

Early Drivers: 1990s and Earlier
During the 1990s, ASEAN's rapid population growth, accelerating urbanization, and expanding economies created fertile conditions for the rise of SUPs. Plastic packaging offered an affordable and practical response to the demand for mass-produced goods, hygiene, and food safety in urban markets. The surge in consumption and limited waste management infrastructure led to open dumping and environmental leakage. At this stage, plastics were perceived as modern, convenient, and essential for ensuring food safety in increasingly dense urban centers. These early conditions embedded SUPs into everyday life and set the foundation for subsequent dependence.

Expansion Period: Late 1990s to Mid-2000s
As regional economies grew, SUPs became central to emerging consumption cultures. The affordability and accessibility of plastics, supported by petrochemical subsidies and weak environmental policy frameworks enabled their widespread adoption across all income groups. Increasing packaging requirements driven by product diversification, branding differentiation, shelf-life extension, and the growth of fast-moving consumer goods led to a sharp rise in plastic

use. At the same time, the rise of tourism, fast-moving consumer goods, and informal urban economies accelerated this trend. Convenience culture and small-portion packaging became the norm, particularly in food and beverage sectors. Vulnerable groups and informal vendors depended on SUPs to lower costs and maintain competitiveness. At the same time, weak environmental governance and fragmented regulations allowed SUP use to expand unchecked. Corporate branding and marketing further reinforced consumer attachment to plastic packaging, while limited public awareness of environmental impacts perpetuated consumption.

Consolidation Phase: Mid-2010s to Present

In the last decade, new technological and social developments have deepened SUP dependence. The rapid growth of e-commerce and food delivery systems has led to a surge in plastic packaging, particularly in urban centers. The COVID-19 pandemic amplified these patterns by re-establishing single-use materials as symbols of hygiene and safety. The proliferation of disposable products, ranging from food containers to protective equipment, has reinforced short-term consumption habits and further strained already limited waste systems. These recent drivers have compounded older ones, creating a system of mutual reinforcement between economic, behavioral, and institutional factors.

4.3.2 From Root Causes to Policy Response

The persistence of SUPs across ASEAN is not driven by a single factor but by a web of interrelated causes that reinforce one another. Together, these factors reveal that SUP dependency in ASEAN is systemic. Economic incentives, behavioral preferences, and policy environments interact in ways that reinforce one another, creating what can be described as a “lock-in” effect. Breaking this cycle requires a coordinated response that addresses both production and consumption sides of the problem.

However, understanding these drivers is not an academic exercise but a prerequisite for effective policymaking. Addressing only one dimension, such as consumer awareness, without reforming economic incentives or improving waste systems will deliver limited results. Thus, developing guiding frameworks and policy options that target the most influential drivers is important.

4.3.3 Root Causes of SUP usage in AMS - How Root Causes Manifest in Practice

The continued use of SUPs in ASEAN is shaped by a complex interplay of practical realities, market structures, and consumer habits. While policy frameworks and public awareness have advanced, SUPs remain the dominant choice for both businesses and households. This persistence reflects a combination of cost pressures, behavioral patterns, and regulatory gaps that reinforce one another. Understanding how these drivers operate in practice helps identify where policy interventions can have the greatest impact. The insights below are based on stakeholder consultations across the region, including interviews with businesses, consumers, and public institutions.

For a mapping of SUP policy implementation across AMS, see Annex 3. [click here]

Key Drivers of SUP Dependence in Practice

Convenience and Behavioral Norms

Convenience remains the strongest driver of SUP dependence. Fast-paced urban lifestyles, food delivery systems, and retail structures are built around single-use packaging. Habit and social expectations—such as associating packaging with quality service—further sustain this pattern. Without visible, practical alternatives, consumers and businesses alike default to disposables.



Cost and Market Barriers

For many micro, small and medium-sized enterprises (MSMEs), virgin plastics remain the cheapest, most reliable option. Alternatives are often costly or unavailable, while procurement systems and supply chains continue to favor established plastic formats. Consumers are less sensitive to price but constrained by the lack of affordable and convenient options.



Hygiene and Perception of Safety

Plastic packaging continues to signify cleanliness and quality assurance, particularly in food and beverage sectors. The pandemic reinforced this perception, extending reliance on disposable products even when reusable options could meet hygiene standards.



Corporate and Supply Chain Practices

Design and marketing decisions, including sachetization and portion-size packaging, lock in SUP formats and shape what consumers can access. Producers often see this as consumer demand rather than market design, deflecting accountability for material choices.



Institutional and Regulatory Constraints

Across ASEAN, fragmented regulations and limited local capacity remain critical barriers. Policies are not always harmonized across ministries or administrative levels, and local authorities often lack the technical and financial resources to implement and enforce new regulations.



Cross-Cutting Insights

The drivers of SUP use are deeply interconnected. Economic incentives, infrastructure design, and consumer behavior reinforce one another in ways that make single-use plastics the default. Convenience and affordability remain the dominant pressures, but perceptions of hygiene and habits sustain demand even when alternatives exist. These reinforcing loops explain why SUP dependency persists despite awareness and policy progress. Addressing this complexity requires combining structural reforms with behavioral and cultural interventions.

In addition, while the prevalence of some SUPs vary among different AMS (e.g., single-use sachets are more abundant in the Philippines and Indonesia), the list of especially challenging SUP use cases to address is similar across the region – e.g., hot food bags, food wrappers and SUPs used in wet markets.

Further guidance regarding how to consider the root causes of SUP usage within respective AMS countries is provided as part of Section 5, specifically within Check-In Point 2 – Root Causes [click here]

Policy-Relevant Takeaways

1. SUP use is driven by interlinked systems of cost, convenience, and culture rather than a single root cause.
2. Effective action requires integrated policies that target infrastructure, business incentives, and consumer behavior simultaneously.

3. Behavioral change efforts must be paired with tangible alternatives and clear information on hygiene and affordability.
4. Producer accountability through design standards and EPR schemes is a key missing element in current regional responses.
5. Strengthening local enforcement and practical support for MSMEs will ensure that national regulations translate into real-world change.

4.4 Guiding Framework for the Development of SUP Policies

The insights above provide a bridge between diagnosis and response and form the basis for guiding framework for effective policy design. Rather than prescribing uniform solutions, the frameworks highlight essential dimensions that can help national and subnational authorities adapt measures to their own policy, economic, and social environments.

4.4.1 Guiding Framework 1 – Align Structural and Behavioral Systems

Reducing SUP use requires addressing both the physical systems that sustain convenience and the behavioral patterns that normalize it. Infrastructure, pricing, and product design determine the choices available, while habits and perceptions influence how people respond to them.

Policy focus: Develop integrated strategies that expand reuse and refill infrastructure, make alternatives visible and accessible, and embed behavioral tools - such as social norm campaigns or default reusable options - into everyday consumption.

4.4.2 Guiding Framework 2 – Build Coherence and Implementation Capacity

Effective policy depends on coordination between national, subnational, and sectoral levels. Fragmented mandates and inconsistent enforcement weaken impact. Equally, municipalities need the technical and financial means to operationalize policies.

Policy focus: Establish coordination mechanisms linking ministries, standardize implementation guidance, and strengthen local enforcement through training and MSME advisory services. Regional alignment through ASEAN can further promote consistency in data and definitions.

4.4.3 Guiding Framework 3 – Realign Economic Incentives

Market systems continue to make SUPs the most cost-effective option. Correcting this imbalance requires embedding environmental costs and supporting the market for alternatives.

Policy focus: Apply fiscal and procurement instruments - eco-modulated fees, targeted subsidies, tax credits, and public procurement standards - to incentivize innovation and reduce dependency on virgin plastics.

4.4.4 Guiding Framework 4 – Strengthen Producer Responsibility

Producers influence SUP use through design, material selection, and marketing practices. Embedding accountability at this level drives systemic change across the value chain.

Policy focus: Expand EPR systems, establish design and labelling standards, and promote transparency in packaging materials and recyclability.

Encouraging innovation in reusable and recyclable formats can reshape supply chains from the source.

4.4.5 Guiding Framework 5 – Promote Inclusive and Just Transitions

SUP reduction policies can disproportionately affect vulnerable groups—informal workers, small retailers, and low-income consumers. Ensuring fairness and participation supports social acceptance and long-term success.

Policy focus: Pair regulatory measures with transition support, including access to affordable alternatives, microfinance for MSMEs, retraining for informal workers, and social safeguards for communities affected by material bans or price reforms.

4.4.6 Guiding Framework 6 – Base Policy on Evidence and Monitoring

Reliable data and adaptive management are central to sustained progress. Continuous monitoring enables learning, coordination, and accountability.

Policy focus: Establish national baselines on plastic flows, track implementation progress through shared ASEAN indicators, and use public reporting to build transparency. Feedback mechanisms between governments, producers, and consumers can ensure policy remains responsive over time.

4.5 The Role of ASEAN

ASEAN's mandate to address plastic pollution and promote sustainable resource management is grounded in regional commitments such as the Bangkok Declaration on Combating Marine Debris (2019) and the Regional Action Plan for Combating Marine Debris in the ASEAN Member States (2021–2025). These instruments establish ASEAN as the primary coordinating body for advancing collective action against SUPs, aligning environmental objectives with broader economic and social development priorities. The Secretariat's cross-sectoral mandate spanning environment, trade, and industry gives ASEAN a unique capacity to integrate SUP reduction efforts into regional policy frameworks and cooperation mechanisms.

Strategically, ASEAN functions as both a convener and an enabler. It provides Member States with a shared policy platform, encourages harmonization of national frameworks, and connects regional initiatives with global processes, including international developments toward a global agreement on plastics pollution. Through this dual role, ASEAN translates regional commitments into practical action, ensuring that progress in one Member State contributes to collective regional gains.

ASEAN is uniquely positioned to shape the region's collective response to SUP pollution. Its role extends beyond coordination - it provides a framework for aligning national efforts, facilitating knowledge exchange, and connecting policy commitments with practical implementation. The Regional Action Plan for Combating Marine Debris in the ASEAN Member States (2021–2025) and the Bangkok Declaration of 2019 together form the foundation for this shared commitment. Building on these milestones, ASEAN can guide Member States in moving from isolated actions to coherent, region-wide progress.



Figure 5: Core Regional Functions Supporting ASEAN Action on SUP

Policy Coordination and Regional Alignment

ASEAN can foster policy coherence across Member States by providing structured guidance on SUP management. This includes aligning definitions of SUPs, harmonizing packaging design and labelling standards and promoting shared monitoring frameworks. These efforts

can help reduce policy fragmentation and create a common basis for trade, reporting, and investment. The ASEC[8] can also strengthen cross-sectoral dialogue between environment, trade, and industry ministries, ensuring that SUP management is integrated into broader agendas on sustainable consumption, production, and circular economy development. Through its technical bodies, such as the ASEAN Working Group on Coastal and Marine Environment (AWGCME), ASEAN can maintain continuous policy dialogue and ensure that regional priorities remain aligned with global developments.

ASEAN could further strengthen policy coherence and delivery by ensuring robust coordination between the ASEAN Working Group on Coastal and Marine Environment (AWGCME) and the region's dedicated focal points for circular and blue economy initiatives, namely, the Focal Group for Circular Economy (FG-CE) and the ASEAN Coordinating Task Force on the Blue Economy (ACTF-BE). The FG-CE serves as the central coordinating body for effective delivery of the Implementation Plan and Work Program under the Framework for Circular Economy for the ASEAN Economic Community (AEC). The Framework articulates five Strategic Priorities, namely (i) harmonization of standards and mutual recognition of circular products and services; (ii) enhanced trade openness and facilitation for circular goods and services; (iii) strengthened roles for innovation, digitalization, and emerging technologies; (iv) promotion of competitive sustainable finance and innovative ESG investments; and (v) efficient use of energy and other resources. Meanwhile, the ACTF-BE oversees the Implementation Plan of the ASEAN Blue Economy, which, inter alia, prioritizes strengthening natural capital by enhancing, restoring, and protecting ecosystem values and environmental assets that underpin the ASEAN Blue Economy. Stronger institutional alignment among these bodies would help ensure policy complementarity, avoid duplication of efforts, and maximize synergies across ASEAN's circular and blue economy agendas.

Capacity Development and Knowledge Exchange

Effective implementation depends on strong institutional and technical capacity across all Member States. ASEAN can expand its role as a regional facilitator of learning by establishing a structured platform for peer exchange, training, and technical assistance. This platform could include regional workshops, digital knowledge-sharing portals, and technical mentoring programs that focus on key policy tools such as EPR, DRS, and reuse and refill models. A centralized online knowledge hub - curating regional case examples, policy templates, and technical guidance - would help Member States adopt proven approaches to their national contexts. Partnering with universities, research institutions, and regional centers of excellence can further strengthen this knowledge base and sustain long-term learning across sectors.

Data, Monitoring, and Reporting

Reliable and comparable data is vital for policy design and progress tracking. ASEC can support Member States by developing a regional data framework that aligns definitions, methodologies, and indicators for monitoring plastic production, consumption, and waste flows. The ASEC can also coordinate the establishment of a regional dashboard that visualizes progress, identifies policy gaps, and shares evidence-based insights. A common reporting mechanism would enhance transparency, encourage peer learning, and support joint advocacy at the global level.

[8] ASEC stands for the ASEAN Secretariat. It is the central administrative body of ASEAN responsible for coordinating the implementation of ASEAN policies and initiatives, including environmental and marine debris programs

Financing and Partnerships

Financing remains a central challenge for scaling SUP reduction measures. ASEAN can help bridge this gap by facilitating access to regional and international funding, identifying collective investment priorities, and supporting the design of bankable projects. By convening dialogues between governments, private investors, and development partners, ASEAN can promote blended finance mechanisms that leverage both public and private capital. Strengthening public–private partnerships also create opportunities for innovation in sustainable materials, packaging alternatives, and waste management infrastructure. Embedding SUP reduction priorities into existing ASEAN frameworks - such as the ASEAN Circular Economy Framework and the ASEAN Sustainable Finance Taxonomy - will help mainstream circular economy principles into regional economic planning.

A Forward-Looking Role for ASEAN

Looking ahead, ASEAN's role can evolve from coordination to long-term stewardship of regional circular economy transformation. Beyond 2025, a dedicated regional program could consolidate lessons from the current Regional Action Plan, providing ongoing support for policy harmonization, capacity building, and investment mobilization. ASEAN is also well placed to represent the collective position of its Member States in international fora, ensuring that regional perspectives are reflected in global negotiations on plastic pollution. By acting as a regional knowledge broker and convener, ASEAN can transform its coordination role into sustained regional leadership - helping Member States achieve tangible lasting reductions in single-use plastic pollution.

5 Entry Points for Policy Makers

5.1 Guiding Policy Decision-Making

This section provides structured guidance for policymakers in the AMS and other stakeholders on how to navigate policy choices related to SUPs. It is designed as an **interactive, stepwise decision-support toolkit** that can be accessed through different entry points depending on the user's knowledge, priorities, or starting position.

The toolkit ensures that decisions are:

- Evidence-based (linked to the 3R principle and root causes).
- Context-sensitive (aligned with national administrative and financial capacities).
- Forward-looking (connecting each decision to expected impacts and implementation pathways).

An entry point is the initial focus or starting position that policymakers can use to begin addressing single-use plastics. It refers to a specific way of approaching the issue - such as through the 3R principle, a particular product category, or a chosen policy instrument - that provides a practical and feasible pathway into the broader set of policy options.

The simple flow of the toolkit from entry point to Policy option is illustrated below.

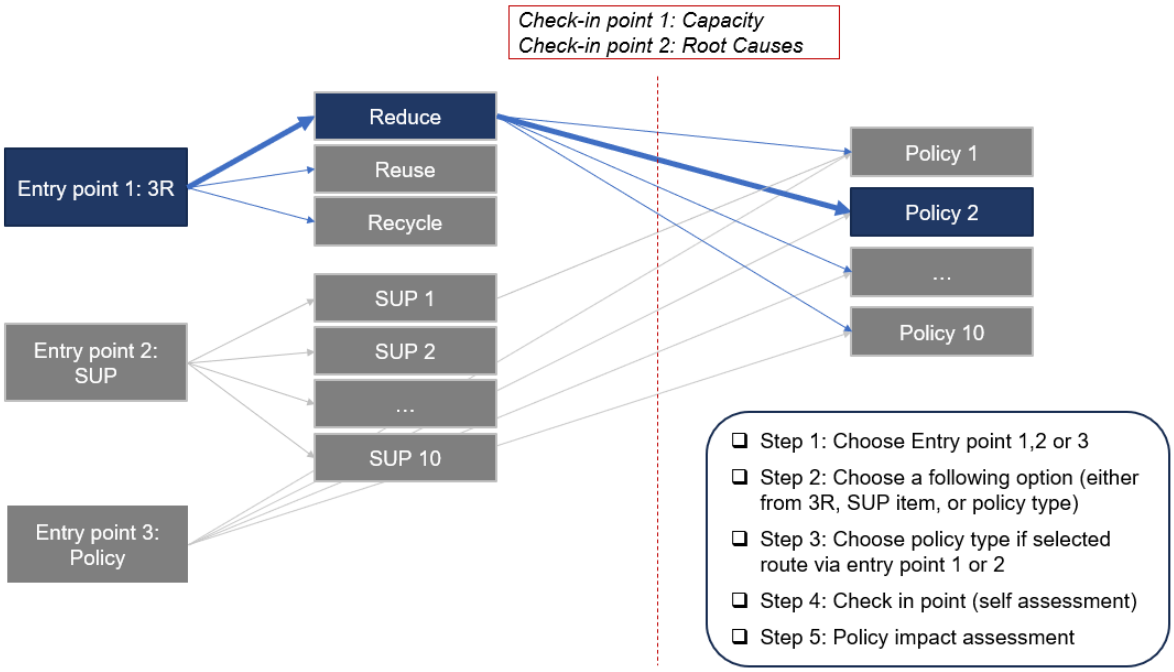
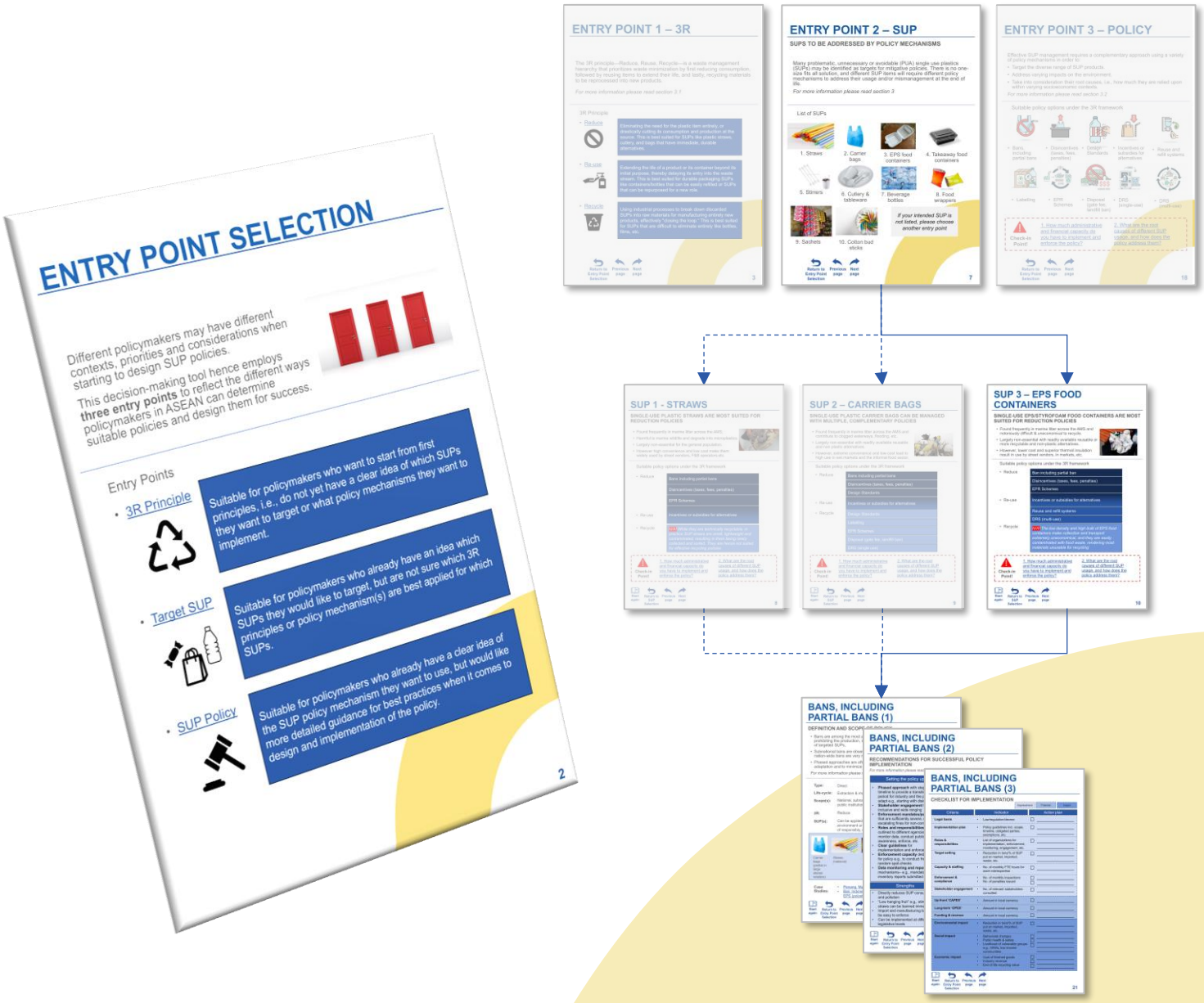


Figure 6: Framework and Entry Points for SUP Policy Decision-Making

INTERACTIVE TOOLKIT

GUIDING POLICY DECISION MAKING

This section is interactive, please navigate using on-screen buttons



Start now!

ENTRY POINT SELECTION

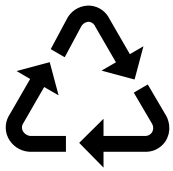
Different policymakers may have different contexts, priorities and considerations when starting to design SUP policies.

This decision-making tool hence employs **three entry points** to reflect the different ways policymakers in ASEAN can determine suitable policies and design them for success.



Entry Points

- 3R Principle



Suitable for policymakers who want to start from first principles, i.e., do not yet have a clear idea of which SUPs they want to target or what policy mechanisms they want to implement.

- Target SUP



Suitable for policymakers who already have an idea which SUPs they would like to target, but are not sure which 3R principles or policy mechanism(s) are best applied for which SUPs.

- SUP Policy



Suitable for policymakers who already have a clear idea of the SUP policy mechanism they want to use, but would like more detailed guidance for best practices when it comes to design and implementation of the policy.

Next page

ENTRY POINT 1 – 3R

The 3R principle - Reduce, Reuse, Recycle - is a waste management hierarchy that prioritizes waste minimization by first reducing consumption, followed by reusing items to extend their life, and lastly, recycling materials to be reprocessed into new products.

For more information please read section 3.1

3R Principle

- Reduce



Eliminating the need for the plastic item entirely, or drastically cutting its consumption and production at the source. This is best suited for SUPs like plastic straws, cutlery, and bags that have immediate, durable alternatives.

- Re-use



Extending the life of a product or its container beyond its initial purpose, thereby delaying its entry into the waste stream. This is best suited for durable packaging SUPs like containers/bottles that can be easily refilled or SUPs that can be repurposed for a new role.

- Recycle



Using industrial processes to break down discarded SUPs into raw materials for manufacturing entirely new products, effectively "closing the loop.“ This is best suited for SUPs that are difficult to eliminate entirely like bottles, films, etc.

REDUCE

POLICIES TO REDUCE SUPS:

- Directly address root cause of plastic leakage by lowering consumption.
- Reduce downstream management costs for governments.
- Encourage innovation in alternatives and sustainable product design.

For more information please read section 3.1.1

Policy instruments under 'Reduce'



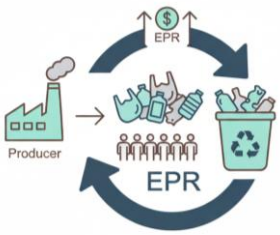
- Bans, including partial bans



- Disincentives (taxes, fees, penalties)



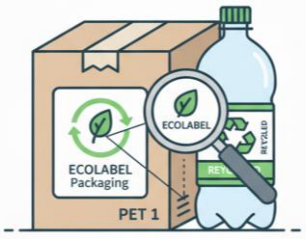
- Design Standards



- EPR Schemes



- Incentives or subsidies for alternatives



- Labelling

Check-in Point!

1. How much administrative and financial capacity do you have to implement and enforce the policy?

2. What are the root causes of different SUP usage, and how does the policy address them?

REUSE

POLICIES TO REUSE SUPS:

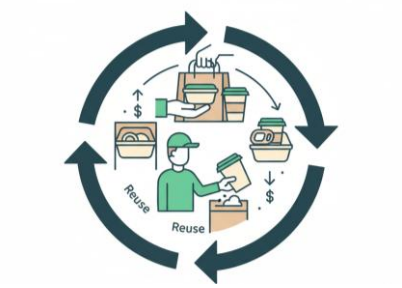
- Reduce reliance on single-use culture.
- Support circular business models such as refill stations or return logistics.
- Offer immediate benefits for AMS with limited recycling infrastructure.

For more information please read section 3.1.2

Policy instruments under ‘Reuse’



- Incentives or subsidies for alternatives



- DRS (multi-use)



- Reuse and refill system

Check-in Point!

1. How much administrative and financial capacity do you have to implement and enforce the policy?

2. What are the root causes of different SUP usage, and how does the policy address them?

RECYCLE

POLICIES TO RECYCLE SUPS:

- Prevent environmental leakage.
- Contribute to waste diversion targets and supports green jobs.
- Provide measurable indicators for tracking progress.

For more information please read section 3.1.3

Policy instruments under 'Recycle'



- Design standards



- Labelling



- EPR schemes



- Disposal (gate fee, landfill ban)



- DRS (single-use)

Check-in Point!

1. How much administrative and financial capacity do you have to implement and enforce the policy?

2. What are the root causes of different SUP usage, and how does the policy address them?

ENTRY POINT 2 – SUP

SUPS TO BE ADDRESSED BY POLICY MECHANISMS

Many problematic, unnecessary or avoidable (PUA) SUPs may be identified as targets for mitigative policies. There is no one-size fits all solution, and different SUP items will require different policy mechanisms to address their usage and/or mismanagement at the end of life.

For more information please read section 3

List of SUPs



1. Straws



2. Carrier bags



3. EPS food containers



4. Takeaway food containers



5. Stirrers



6. Cutlery & tableware



7. Beverage bottles



8. Food wrappers



9. Sachets



10. Cotton bud sticks

If your intended SUP is not listed, please choose another entry point

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SUP 1 - STRAWS

SINGLE-USE PLASTIC STRAWS ARE MOST SUITED FOR REDUCTION POLICIES

- Found frequently in marine litter across the AMS.
- Harmful to marine wildlife and degrade into microplastics.
- Largely non-essential for the general population.
- However high convenience and low cost make them widely used by street vendors, F&B operators etc.



Suitable policy options under the 3R framework

• Reduce	Bans including partial bans
	Disincentives (taxes, fees, penalties)
	EPR Schemes
• Re-use	Incentives or subsidies for alternatives
• Recycle	*N/A! While they are technically recyclable, in practice SUP straws are small, lightweight and contaminated, resulting in them being rarely collected and sorted. They are hence not suited for effective recycling policies*

Check-in Point!

1. How much administrative and financial capacity do you have to implement and enforce the policy?

2. What are the root causes of different SUP usage, and how does the policy address them?

SUP 2 – CARRIER BAGS

SINGLE-USE PLASTIC CARRIER BAGS CAN BE MANAGED WITH MULTIPLE, COMPLEMENTARY POLICIES

- Found frequently in marine litter across the AMS and contribute to clogged waterways, flooding, etc.
- Largely non-essential with readily available reusable and non plastic alternatives.
- However, extreme convenience and low-cost lead to high use in wet markets and the informal food sector.



Suitable policy options under the 3R framework

- Reduce
- Re-use
- Recycle

Bans including partial bans
Disincentives (taxes, fees, penalties)
Design Standards
Incentives or subsidies for alternatives
Design Standards
Labelling
EPR Schemes
Disposal (gate fee, landfill ban)
DRS (single use)

Check-in Point!

1. How much administrative and financial capacity do you have to implement and enforce the policy?

2. What are the root causes of different SUP usage, and how does the policy address them?

SUP 3 – EPS FOOD CONTAINERS

SINGLE-USE EPS/STYROFOAM FOOD CONTAINERS ARE MOST SUITED FOR REDUCTION POLICIES

- Found frequently in marine litter across the AMS and notoriously difficult & uneconomical to recycle.
- Largely non-essential with readily available reusable or more recyclable and non-plastic alternatives.
- However, lower cost and superior thermal insulation result in use by street vendors, in markets, etc.



Suitable policy options under the 3R framework

• Reduce	Ban including partial ban
	Disincentives (taxes, fees, penalties)
	EPR Schemes
• Re-use	Incentives or subsidies for alternatives
	Reuse and refill systems
	DRS (multi-use)
• Recycle	*N/A! The low density and high bulk of EPS food containers make collection and transport extremely uneconomical, and they are easily contaminated with food waste, rendering most materials unusable for recycling*

Check-in Point!

1. How much administrative and financial capacity do you have to implement and enforce the policy?

2. What are the root causes of different SUP usage, and how does the policy address them?

SUP 4 – TAKEAWAY FOOD CONTAINERS

SINGLE-USE PLASTIC TAKEAWAY FOOD CONTAINERS CAN BE MANAGED WITH MULTIPLE, COMPLEMENTARY POLICIES

- Large volume used in takeaway and delivery services leads to a high leakage rate into the environment.
- While recyclable in theory, in practice rarely collected due to high contamination rate.
- Difficult to completely ban due to cost and convenience factors.



Suitable policy options under the 3R framework

• Reduce	Bans including partial bans
	Disincentives (taxes, fees, penalties)
	Design Standards
	Incentives or subsidies for alternatives
• Re-use	DRS (multi-use)
	Design Standards
	Labelling
• Recycle	EPR Schemes
	Disposal (gate fee, landfill ban)

Check-in Point!

1. How much administrative and financial capacity do you have to implement and enforce the policy?

2. What are the root causes of different SUP usage, and how does the policy address them?

SUP 5 – STIRRERS

SINGLE-USE PLASTIC STIRRERS ARE MOST SUITED FOR REDUCTION POLICIES

- Small, fragmented size and light weight allow them to easily become widespread environmental litter.
- Non-essential with readily available reusable and non-plastic alternatives.



Suitable policy options under the 3R framework

- Reduce
- Re-use
- Recycle

Bans including partial bans
Disincentives (taxes, fees, penalties)
Incentives or subsidies for alternatives
N/A! While they are technically recyclable, in practice SUP stirrers & are small, lightweight and contaminated, resulting in them not being collected and sorted. They are hence not suited for effective recycling policies

Check-in Point!

1. How much administrative and financial capacity do you have to implement and enforce the policy?

2. What are the root causes of different SUP usage, and how does the policy address them?

SUP 6 – CUTLERY & TABLEWARE

SINGLE-USE PLASTIC CUTLERY AND TABLEWARE ARE MOST SUITED FOR REDUCTION POLICIES

- Small, fragmented size and light weight allow them to easily become widespread environmental litter.
- Largely non-essential with readily available reusable and non-plastic alternatives.
- However, heavily used in rapid-service, zero-wash business model of street food and night markets.



Suitable policy options under the 3R framework

• Reduce	Bans including partial bans
	Disincentives (taxes, fees, penalties)
• Re-use	Incentives or subsidies for alternatives
• Recycle	*N/A! While they are technically recyclable, in practice SUP cutlery & tableware are small, lightweight and contaminated, resulting in them being rarely collected and sorted. They are hence not suited for effective recycling policies*

Check-in Point!

1. How much administrative and financial capacity do you have to implement and enforce the policy?

2. What are the root causes of different SUP usage, and how does the policy address them?

SUP 7 – BEVERAGE BOTTLES

SINGLE-USE PLASTIC BEVERAGE BOTTLES CAN BE MANAGED WITH MULTIPLE, COMPLEMENTARY POLICIES

- One of the largest volumes of plastic waste by weight and contribute heavily to marine litter.
- Highly recyclable and valuable to recyclers and informal waste workers in the AMS.
- Extremely difficult to ban fully due to highly varied branded bottled beverages in market, and essential in areas with limited access to clean drinking water.



Suitable policy options under the 3R framework

- Reduce
  - Bans including partial bans
  - Design Standards
  - Incentives or subsidies for alternatives
- Re-use
  - Reuse and refill systems
  - Design Standards
- Recycle
  - Labelling
  - EPR Schemes
  - Disposal (gate fee, landfill ban)
  - DRS (single-use)

Check-in Point!

1. How much administrative and financial capacity do you have to implement and enforce the policy?

2. What are the root causes of different SUP usage, and how does the policy address them?

SUP 8 – FOOD WRAPPERS

SINGLE-USE FOOD WRAPPERS FOR CANDY, CHIPS, ETC. CAN BE MANAGED WITH MULTIPLE, COMPLEMENTARY POLICIES

- Small size and light weight lead to all of them ending up in waste streams or being easily littered into the environment.
- Most are not mechanically recyclable as they are constructed from multi-layer, multi-material films.
- In theory non-essential products but difficult to ban due to highly varied branded products in market.



Suitable policy options under the 3R framework

• Reduce	Bans including partial bans
	Disincentives (taxes, fees, penalties)
	Design Standards
	Incentives or subsidies for alternatives
• Re-use	Reuse and refill systems
	Design Standards
	Labelling
• Recycle	EPR Schemes
	Disposal (gate fee, landfill ban)

Check-in Point!

1. How much administrative and financial capacity do you have to implement and enforce the policy?

2. What are the root causes of different SUP usage, and how does the policy address them?

SUP 9 – SACHETS

SINGLE-SERVE MULTILAYER SACHETS CAN BE MANAGED WITH MULTIPLE, COMPLEMENTARY POLICIES

- Small size and light weight lead to frequent leakage into the environment.
- Not mechanically recyclable as they are constructed from multi-layer, multi-material films.
- However, includes essential products for low-income populations who cannot afford to buy in bulk.



Suitable policy options under the 3R framework

- Reduce
  - Bans including partial bans
  - Design Standards
  - Incentives or subsidies for alternatives
- Re-use
  - Reuse and refill systems
  - Design Standards
- Recycle
  - Labelling
  - EPR Schemes
  - Disposal (gate fee, landfill ban)
  - DRS (single-use)

Check-in Point!

1. How much administrative and financial capacity do you have to implement and enforce the policy?

2. What are the root causes of different SUP usage, and how does the policy address them?

SUP 10 – COTTON BUD STICKS

SINGLE-USE PLASTIC COTTON BUD STICKS ARE MOST SUITED FOR REDUCTION POLICIES

- Small size and light weight lead to frequent leakage into the environment where they harm marine life.
- Largely non-essential with readily available reusable and non-plastic alternatives at comparable cost.



Suitable policy options under the 3R framework

- Reduce
  - Bans including partial bans
  - Design Standards
- Re-use
  - Incentives or subsidies for alternatives
  - Reuse and refill systems
- Recycle
  - *N/A! SUP cotton buds are not recyclable and cannot be designed to be made recyclable. In addition they are a nuisance to recycling systems due to their small, lightweight nature*

Check-in Point!

1. How much administrative and financial capacity do you have to implement and enforce the policy?
2. What are the root causes of different SUP usage, and how does the policy address them?

ENTRY POINT 3 – POLICY

Effective SUP management requires a complementary approach using a variety of policy mechanisms in order to:

- Target the diverse range of SUP products.
- Address varying impacts on the environment.
- Take into consideration their root causes, i.e., how much they are relied upon within varying socioeconomic contexts.

For more information please read section 3.2

Suitable policy options under the 3R framework



- Bans, including partial bans



- Disincentives (taxes, fees, penalties)



- Design Standards



- Incentives or subsidies for alternatives



- Reuse and refill systems



- Labelling



- EPR Schemes



- Disposal (gate fee, landfill ban)



- DRS (single-use)



- DRS (multi-use)

Check-in Point!

1. How much administrative and financial capacity do you have to implement and enforce the policy?

2. What are the root causes of different SUP usage, and how does the policy address them?

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BANS, INCLUDING PARTIAL BANS (1)

DEFINITION AND SCOPE OF POLICY

- Bans are among the most ambitious measures, prohibiting the production, import, distribution or sale of targeted SUPs.
- Subnational bans are observed in the AMS but nation-wide bans are very rare.
- Phased approaches are often used to allow adaptation and to minimize socio-economic impacts.

For more information please read sections 3.2



Type: Direct

Life-cycle: Extraction & import; Manufacturing & import; Use

Scope(s): National, subnational, specific environments (e.g., protected areas, public institutions), specific sectors (e.g., retail, hospitality)

3R: Reduce

SUP(s): Can be applied to SUPs that are non-essential, especially harmful to the environment or especially difficult to reuse, recycle or otherwise dispose of responsibly, e.g.,



Carrier bags (partial in large stores/ retailers)



Straws (national)



Sachets (partial in large stores/ retailers)



Stirrers (national)



Cutlery & tableware (national)



EPS takeaway container (national)

Case Studies:

- Penang, Malaysia sub-national ban on plastic carrier bags
- Bali, Indonesia sub-national ban on plastic carrier bags, straws and EPS (polystyrene) takeaway containers

BANS, INCLUDING PARTIAL BANS (2)

RECOMMENDATIONS FOR SUCCESSFUL POLICY IMPLEMENTATION

For more information please read sections 4.1

Setting the policy up

- **Phased approach** with stages and timeline to provide a transition period for industry and the public to adapt e.g., starting with disincentive
- **Stakeholder engagement** that is inclusive and wide ranging
- **Enforcement mandates/penalties** that are sufficiently severe, e.g., escalating fines for non-compliance
- **Roles and responsibilities** clearly outlined to different agencies e.g., to monitor data, conduct public awareness, enforce, etc.
- **Clear guidelines** for implementation and enforcement
- **Enforcement capacity** dedicated for policy e.g., to conduct frequent, random spot-checks
- **Data monitoring and reporting** mechanisms– e.g., mandatory inventory reports submitted online

Measuring the impact

Environmental: Quantifying any reduction in SUP waste e.g., via waste audits, or reduced consumption behavior e.g., via surveys

Social: Qualitative engagement with affected stakeholders (businesses, general public, informal waste workers, etc.) such that safeguards/standards can be put in place to protect against adverse effects if necessary

Economic: Quantitative analysis of effect of the ban on cost of finished goods, end of life recycling value, revenue of manufacturing industry, etc.

Strengths

- Directly reduces SUP consumption and pollution
- “Low hanging fruit” e.g., stirrers, straws can be banned immediately
- Import and manufacturing bans may be easy to enforce
- Can be implemented at different legislative levels

Limitations

- Difficult to use for more essential SUPs with lack of alternatives e.g., PET bottles
- May be difficult to enforce if the ban is at the “sale”/”retail” level
- May lower “convenience” and increase “cost” for public

BANS, INCLUDING PARTIAL BANS (3)

CHECKLIST FOR IMPLEMENTATION

Organizational | Financial | Impact

Criteria	Indicator	Action plan
Legal basis	• Law/regulation/decree	☐ _____
Implementation plan	• Policy guidelines including scope, timeline, obligated parties, exemptions, etc.	☐ _____ _____
Roles & responsibilities	• List of organizations for implementation, enforcement, monitoring, engagement, etc.	☐ _____ _____
Target setting	• Reduction in tons/% of SUP put on market, imported, waste, etc.	☐ _____ _____
Capacity & staffing	• No. of monthly FTE hours for each role/expertise	☐ _____
Enforcement & compliance	• No. of monthly inspections • No. of penalties issued	☐ _____ ☐ _____
Stakeholder engagement	• No. of relevant stakeholders consulted	☐ _____
Up-front 'CAPEX'	• Amount in local currency	☐ _____
Long-term 'OPEX'	• Amount in local currency	☐ _____
Funding & revenue	• Amount in local currency	☐ _____
Environmental impact	• Reduction in tons/% of SUP put on market, imported, waste, etc.	☐ _____ _____
Social impact	• Behavioral changes • Public health & safety • Livelihood of vulnerable groups e.g., IWWs, low income communities	☐ _____ ☐ _____ ☐ _____ _____
Economic impact	• Cost of finished goods • Industry revenue • End of life recycling value	☐ _____ ☐ _____ ☐ _____

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DISINCENTIVES (TAXES, FEES, PENALTIES) (1)

DEFINITION AND SCOPE OF POLICY

- Disincentives introduce charges on the production, import, distribution or sale of targeted SUPs.
- Effectiveness depends on the level of the disincentive, enforcement capacity, and accompanying awareness campaigns.
- When set sufficiently high, disincentives have proven effective in reducing demand and can act as a transitionary policy before a full ban.



For more information please read sections 3.2

Type: Direct

Life-cycle: Extraction & import, Manufacturing & import, Marketing & sale

Scope(s): National, subnational, specific environments (e.g., protected areas, public institutions), specific sectors (e.g., retail, hospitality)

3R: Reduce

SUP(s): Can be applied at different levels, with larger disincentives for SUPs that are non-essential, especially harmful to the environment or especially difficult to reuse, recycle or otherwise dispose of responsibly, e.g.,



Carrier bags (national charge in stores/ retailers)



Straws (national charge for takeaway F&B)



Sachets (tax in large stores/ retailers)



Beverage bottles (manufacturing & import tax on small sizes)



EPS food containers (large manufacturing & import tax)



Takeaway food containers (national charge for F&B sale)

Case Studies:

- Viet Nam national Environmental Protection Tax
- Brunei excise tax on plastic

DISINCENTIVES (TAXES, FEES, PENALTIES) (2)

RECOMMENDATIONS FOR SUCCESSFUL POLICY IMPLEMENTATION

For more information please read sections 4,1

Setting the policy up

- **Phased approach** with stages and timeline to provide a transition period for industry and the public to adapt. Can escalate to a full ban
- **Enforcement mandates/penalties** that are sufficiently severe, e.g., fines, suspension of license
- **Roles and responsibilities** clearly outlined to different agencies e.g., to monitor data, enforce, etc.
- **Clear guidelines** for implementation and enforcement
- **Enforcement capacity** dedicated for policy e.g., to conduct frequent, random spot-checks
- **Data monitoring and reporting** mechanisms– e.g., mandatory inventory reports and revenue from disincentives submitted online
- **Transparent** aggregation and usage of funds collected for waste management/recycling development

Measuring the impact

Environmental: Quantifying any reduction in:

- SUP sales e.g., via inventory reports, revenue from charges/taxes, etc.
- SUP waste e.g., via waste audits
- Consumption behavior e.g., via surveys

Social: Qualitative engagement with affected stakeholders (businesses, general public, informal waste workers, etc). such that safeguards/standards can be put in place to protect against adverse effects if necessary

Economic:

- Revenue from disincentive
- Quantitative analysis of effect of the disincentive on revenue of SUP manufacturing industry

Strengths

- In theory, directly reduces SUP consumption and pollution
- Easily scalable and adjustable over time if too high/too low
- Can be implemented at different legislative levels
- Can be extremely targeted
- More palatable for public than a ban

Limitations

- May not have desired reduction impact if disincentive is too low
- May face increase of illegal manufacturing/imports of SUPs
- May be difficult to enforce if the disincentive is at the “sale”/”retail” level, especially for smaller vendors

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DISINCENTIVES (TAXES, FEES, PENALTIES) (3)

CHECKLIST FOR IMPLEMENTATION

Organizational | Financial | Impact

Criteria	Indicator	Action plan
Legal basis	• Law/regulation/decree	☐ _____
Implementation plan	• Policy guidelines including scope, timeline, obligated parties, exemptions, etc.	☐ _____ _____
Roles & responsibilities	• List of organizations for implementation, enforcement, monitoring, engagement, etc.	☐ _____ _____
Target setting	• Reduction in tons/% of SUP put on market, imported, waste, etc.	☐ _____ _____
Capacity & staffing	• No. of monthly FTE hours for each role/expertise	☐ _____
Enforcement & compliance	• No. of monthly inspections • No. of penalties issued	☐ _____ ☐ _____
Stakeholder engagement	• No. of relevant stakeholders consulted	☐ _____
Up-front 'CAPEX'	• Amount in local currency	☐ _____
Long-term 'OPEX'	• Amount in local currency	☐ _____
Funding & revenue	• Amount in local currency	☐ _____
Environmental impact	• Reduction in tons/% of SUP put on market, imported, waste, etc.	☐ _____ _____
Social impact	• Behavioral changes • Public health & safety • Livelihood of vulnerable groups e.g., IWWs, low income communities	☐ _____ ☐ _____ ☐ _____ _____
Economic impact	• Cost of finished goods • Industry revenue • End of life recycling value	☐ _____ ☐ _____ ☐ _____

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DESIGN STANDARDS (1)

DEFINITION AND SCOPE OF POLICY

- Design standards mandate changes to product or packaging design to improve recyclability, reduce material intensity, or increase recycled content
- Voluntary, private sector guidance are available and have resulted in impactful initiatives
- However, mandatory design standards (e.g., in the EU) provide stronger incentives for producers to innovate and shift to sustainable designs



For more information please read sections 3.2

Type: Direct

Life-cycle: Manufacturing & import, Use

Scope(s): National

3R: Reduce

SUP(s): Can be applied differently to different SUPs, e.g., minimum recycled content may be more difficult to implement for food-contact SUPs, mono-material requirements may not be suitable for food wrappers, etc.



Carrier bags (minimum thickness; minimum recycled content)



Food wrappers (maximum headspace)



Sachets (mono-material)



Beverage bottles (mono-material; minimum recycled content)

Case Studies:

- Global voluntary design standards for packaging
- Mandatory design standards for PET bottle caps in the EU

DESIGN STANDARDS (2)

RECOMMENDATIONS FOR SUCCESSFUL POLICY IMPLEMENTATION

For more information please read sections 4.1

Setting the policy up

- **Phased approach** with stages and timeline e.g., increasing minimum recycled content mandate
- **Enforcement mandates/penalties** that are sufficiently severe, e.g., fines, import bans
- **Roles and responsibilities** clearly outlined to different agencies e.g., to monitor data, enforce, etc.
- **Clear guidelines** for implementation and enforcement
- **Targeted stakeholder engagement** for specific standards and products to understand feasibility of design standards e.g., with industry, research institutions, etc.
- **Enforcement capacity** dedicated for policy e.g., to conduct product testing

Measuring the impact

Environmental: Quantifying any:

- Gross reduction in virgin plastic consumption
- Increase in recycling rate or reduction in waste for SUPs made to be more recyclable e.g., via recycling/waste audits

Social: Qualitative engagement with affected stakeholders e.g., with businesses/consumers regarding quality of products such that safeguards/standards can be put in place to protect against adverse effects if necessary

Economic: Quantitative analysis of changes in:

- Cost of manufacturing SUPs
- End of life recycling value of SUPs
- Cost of recycled resin vs virgin resin

Strengths

- Directly reduces virgin plastic consumption and pollution per “piece” of product/packaging put on market
- Increases recycling value and demand for recycled resin
- Reduces waste going to landfill

Limitations

- May face significant pushback from industries
- May adversely affect quality and price of products for consumers
- No impact in number of “pieces” of SUP products put on market, i.e., overall impact is limited

DESIGN STANDARDS (3)

CHECKLIST FOR IMPLEMENTATION

Organizational | Financial | Impact

Criteria	Indicator	Action plan
Legal basis	• Law/regulation/decree	☐ _____
Implementation plan	• Policy guidelines including scope, timeline, obligated parties, exemptions, etc.	☐ _____ _____
Roles & responsibilities	• List of organizations for implementation, enforcement, monitoring, engagement, etc.	☐ _____ _____
Target setting	• Reduction in tons/% of virgin plastic, increase in tons/% of recycled content, recycling rate	☐ _____ _____
Capacity & staffing	• No. of monthly FTE hours for each role/expertise	☐ _____
Enforcement & compliance	• No. of monthly inspections • No. of penalties issued	☐ _____ ☐ _____
Stakeholder engagement	• No. of relevant stakeholders consulted	☐ _____
Up-front 'CAPEX'	• Amount in local currency	☐ _____
Long-term 'OPEX'	• Amount in local currency	☐ _____
Funding & revenue	• Amount in local currency	☐ _____
Environmental impact	• Reduction in tons/% of SUP waste, virgin plastic put on market, etc.	☐ _____ _____
Social impact	• Behavioral changes • Public health & safety • Livelihood of vulnerable groups e.g., IWWs, low income communities	☐ _____ ☐ _____ ☐ _____ _____
Economic impact	• Cost of manufacturing products • End of life recycling value • Cost of recycled resin vs virgin resin	☐ _____ ☐ _____ ☐ _____

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INCENTIVES OR SUBSIDIES FOR ALTERNATIVES (1)

DEFINITION AND SCOPE OF POLICY

- Policies that provide targeted support for alternatives and substitutes to SUPs, including grants, tax incentives, or subsidies.
- Success depends on the availability of infrastructure (e.g., composting facilities) and caution against promoting materials that cannot be properly processed.
- Poorly designed incentives risk shifting the problem rather than solving it.



For more information please read sections 3.2

Type: Indirect

Life-cycle: Extraction & import, Manufacturing & import

Scope(s): National, subnational, specific sectors (e.g., retail, hospitality)

3R: Reduce, Reuse

SUP(s): Can be applied to SUPs that have more sustainable alternatives i.e., reusable, compostable, bio-based, etc. in the market but which are more costly, less developed and not as widely available, e.g.,



Carrier bags (cotton multi-use bags, paper bags)



Straws (paper, polylactic acid "PLA" if there are accessible composting facilities)



Cutlery & tableware (paper/wood based, biodegradable if there are accessible composting facilities)

Case Studies:

- Bangladesh's Jute Packaging Act
- South Korea's national incentive system for green practices

INCENTIVES OR SUBSIDIES FOR ALTERNATIVES (2)

RECOMMENDATIONS FOR SUCCESSFUL POLICY IMPLEMENTATION

For more information please read sections 4.1

Setting the policy up

- **Coupling with complementary "direct" SUP policy options** e.g., bans, partial bans to support transition from multiple angles
- **Stakeholder engagement** that is inclusive and wide ranging
- **Clear standards and certification** in collaboration with "labelling" policy that chosen alternatives are actually more sustainable (e.g., composting, biodegradability standards, FSC certification for wood/paper-based products, etc.)
- **Implementation capacity** dedicated to set up e.g., industrial composting systems, material testing facilities, etc.
- **Efficient mechanisms for claiming subsidies/incentives** e.g., online portal with clear guidelines for document submission

Measuring the impact

Environmental: Quantifying any:

- Gross reduction in virgin plastic consumption
- Increase in recycling rate or reduction in waste for SUPs made to be more recyclable e.g., via recycling/waste audits

Social: Qualitative engagement with affected stakeholders e.g., with businesses/consumers regarding quality of products such that safeguards/standards can be put in place to protect against adverse effects if necessary

Economic: Quantitative analysis of changes in:

- Cost of manufacturing SUPs
- End of life recycling value of SUPs
- Cost of recycled resin vs virgin resin

Strengths

- Excellent supportive policy for bans and disincentives of SUPs,
- May promote new markets in the local manufacturing sector
- Encourages collaboration between multiple stakeholders – labelling agencies, research institutions, manufacturers, etc.

Limitations

- May not have significant impact if not alongside restrictions on SUPs
- Requires some source of funding
- May face public dissatisfaction with quality of alternative compared to SUP
- Poorly selected alternatives may just shift the problem

INCENTIVES OR SUBSIDIES FOR ALTERNATIVES (3)

CHECKLIST FOR IMPLEMENTATION

Organizational | Financial | Impact

Criteria	Indicator	Action plan
Legal basis	• Law/regulation/decree	☐ _____
Implementation plan	• Policy guidelines including scope, timeline, eligible parties and products, etc.	☐ _____ _____
Roles & responsibilities	• List of organizations for implementation, enforcement, monitoring, engagement, etc.	☐ _____ _____
Target setting	• Reduction in tons/% of SUP put on market, imported, waste, etc.	☐ _____ _____
Capacity & staffing	• No. of monthly FTE hours for each role/expertise	☐ _____
Enforcement & compliance	• No. of product verifications carried out	☐ _____ ☐ _____
Stakeholder engagement	• No. of relevant stakeholders consulted	☐ _____
Up-front 'CAPEX'	• Amount in local currency	☐ _____
Long-term 'OPEX'	• Amount in local currency	☐ _____
Funding & revenue	• Amount in local currency	☐ _____
Environmental impact	• Reduction in tons/% of SUP put on market, imported, waste, etc.	☐ _____ _____
Social impact	• Behavioral changes • Public health & safety • Livelihood of vulnerable groups e.g., IWWs, low income communities	☐ _____ ☐ _____ ☐ _____ _____
Economic impact	• Net cost to funder of incentive • Industry revenue • Cost of finished products (alternative compared to SUP)	☐ _____ ☐ _____ ☐ _____

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REUSE AND REFILL OPTIONS (1)

DEFINITION AND SCOPE OF POLICY

- Reuse and refill options support business models that reduce reliance on SUPs through refill-at-home, refill-on-the-go, return-from-home, or return-on-the-go schemes.
- These models extend product lifecycles, reduce waste generation, and support a shift to circular consumption patterns.
- Their success depends on regulatory support, infrastructure investment, and, in some cases, complementary bans to drive uptake.



For more information please read sections 3.2

Type: Indirect

Life-cycle: Marketing & sale, Use

Scope(s): National, sub-national, specific sectors (e.g., retail, hospitality)

3R: Reuse

SUP(s): Can be applied to avoid the use of SUPs for products that can be dispensed in bulk – e.g., hygiene products like soap, shampoo detergent, drinking water, etc.



Takeaway food containers



Beverage bottles



Food wrappers



Sachets

Case Studies:

- Grab Singapore's voluntary reuse pilot for takeaway containers
- France's mandatory reusable tableware for dine-in

REUSE AND REFILL OPTIONS (2)

RECOMMENDATIONS FOR SUCCESSFUL POLICY IMPLEMENTATION

For more information please read sections 4.1

Setting the policy up

- **Pilot testing** of reuse/refill systems allow for refinement prior to nationwide mandatory policy
- **Specific, mandatory targets** to encourage the market-wide adoption of reuse-oriented systems e.g., an allotted m^2 of floor space in every large supermarket
- **Enforcement mandates/penalties** for non-compliance that are sufficiently severe, e.g., fines, suspension of business license
- **Clear guidelines** for implementation and enforcement, e.g., to maintain hygiene
- **Targeted stakeholder engagement** for efficient, standardised and relevant refill stations to be designed
- **Community engagement & public education** e.g., to encourage use of refill stations

Measuring the impact

Environmental: Quantifying any reduction in:

- SUP waste e.g., via waste audits
- Purchasing of SUP products e.g., via sales data

Social: Qualitative engagement with affected stakeholders e.g., with businesses/consumers regarding quality of products, and any issues regarding convenience or hygiene such that safeguards/standards can be put in place to protect against adverse effects if necessary

Economic: Quantitative analysis of:

- Cost of reuse/refill systems to sales revenue of businesses
- Savings for consumers by choosing reuse/refill model vs SUP

Strengths

- Directly reduces virgin plastic consumption and pollution per "piece" of product/packaging put on market
- Increases recycling value and demand for recycled resin
- Reduces waste going to landfill

Limitations

- May face significant pushback from industries
- May adversely affect quality and price of products for consumers
- No impact in number of "pieces" of SUP products put on market, i.e., overall impact is limited

REUSE AND REFILL OPTIONS (3)

CHECKLIST FOR IMPLEMENTATION

Organizational | Financial | Impact

Criteria	Indicator	Action plan
Legal basis	• Law/regulation/decree	☐ _____
Implementation plan	• Policy guidelines including scope, timeline, obligated parties, exemptions, etc.	☐ _____ _____
Roles & responsibilities	• List of organizations for implementation, enforcement, monitoring, engagement, etc.	☐ _____ _____
Target setting	• Reduction in tons/% of SUP put on market • No. of reuse/refill stations	☐ _____ _____
Capacity & staffing	• No. of monthly FTE hours for each role/expertise	☐ _____
Enforcement & compliance	• No. of monthly inspections • No. of penalties issued	☐ _____ ☐ _____
Stakeholder engagement	• No. of relevant stakeholders consulted	☐ _____
Up-front 'CAPEX'	• Amount in local currency	☐ _____
Long-term 'OPEX'	• Amount in local currency	☐ _____
Funding & revenue	• Amount in local currency	☐ _____
Environmental impact	• Reduction in tons/% of SUP put on market, imported, waste, etc.	☐ _____ _____
Social impact	• Behavioral changes • Public health & safety • Livelihood of vulnerable groups e.g., IWWs, low income communities	☐ _____ ☐ _____ ☐ _____ _____
Economic impact	• Industry revenue • Cost of finished goods (reuse/refill compared to SUP)	☐ _____ ☐ _____ _____

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LABELLING (1)

DEFINITION AND SCOPE OF POLICY

- Labels inform consumers and businesses of environmental characteristics and more sustainable options (e.g., recyclability, compost-ability, disposal instructions).
- This enhances transparency but is only effective when supported by reliable waste management systems and consumer awareness.

For more information please read sections 3.2



Type: Indirect

Life-cycle: Manufacturing & import, Marketing & sale

Scope(s): National

3R: Reduce, Recycle

SUP(s): Different labels can be applied differently to different SUPs and SUP alternatives – e.g., recyclability and guidance to recycle for PET bottles and compost-ability and composting guidance for SUP alternative



Takeaway food containers (label for compostable alternative)



Beverage bottles (label for recycling and guidance)



Food wrappers (If mono-material, label for recycling and guidance)



Straws (label for compostable alternative)

Case Studies:

- Nestle Malaysia Recycling Label
- Thailand national Green Label Scheme

LABELLING (2)

RECOMMENDATIONS FOR SUCCESSFUL POLICY IMPLEMENTATION

For more information please read sections 4.1

Setting the policy up

- **Mandatory labels** to indicate recyclability, compost-ability etc. and responsible guidelines for disposal
- **Enforcement mandates/penalties** for non-compliance that are sufficiently severe, e.g., fines,
- **Clear guidelines** for implementation and enforcement, e.g., to ensure all relevant products put on market have them
- **Targeted stakeholder engagement** for developing visually appealing and informative labels including feedback from both consumers and private sector
- **Wide community engagement & public education** to socialize labels and encourage consumers to choose more sustainable products and follow disposal instructions

Measuring the impact

Environmental:

- Quantifying any reduction in SUP waste and/or increase in recycling rate e.g., via waste audits and engagement with waste workers and recyclers
- Qualitative analysis of changes in consumer purchasing choices

Social: Qualitative engagement with affected stakeholders e.g., consumers to analyse effects on quality of life due to changes in purchasing choices.

Economic: Quantitative analysis of:

- Cost of more sustainable products certified by labelling versus traditional SUPs
- Increased end of life recycling value

Strengths

- Not as difficult to implement since most AMS already have voluntary ecolabelling agencies
- Integrates well with other policy options e.g., “incentives/subsidies for alternatives”, “EPR”, “DRS – single use”, etc.

Limitations

May have limited impact if :

- Label is not well designed
- Public education is too weak
- Other complementary policies are not present

LABELLING (3)

CHECKLIST FOR IMPLEMENTATION

Organizational | Financial | Impact

Criteria	Indicator	Action plan
Legal basis	• Law/regulation/decree	☐ _____
Implementation plan	• Policy guidelines including scope, timeline, eligible parties and products, etc.	☐ _____ _____
Roles & responsibilities	• List of organizations for implementation, enforcement, monitoring, engagement, etc.	☐ _____ _____
Target setting	• Reduction in tons/% of SUP waste • Increase in recycling rate	☐ _____ _____
Capacity & staffing	• No. of monthly FTE hours for each role/expertise	☐ _____
Enforcement & compliance	• No. of product verifications carried out	☐ _____ ☐ _____
Stakeholder engagement	• No. of relevant stakeholders consulted	☐ _____
Up-front 'CAPEX'	• Amount in local currency	☐ _____
Long-term 'OPEX'	• Amount in local currency	☐ _____
Funding & revenue	• Amount in local currency	☐ _____
Environmental impact	• Reduction in tons/% of SUP waste • Increase in recycling rate	☐ _____ _____
Social impact	• Behavioral changes • Public health & safety • Livelihood of vulnerable groups e.g., IWWs, low income communities	☐ _____ ☐ _____ ☐ _____ _____
Economic impact	• Cost difference of more sustainable certified products • End of life recycling value	☐ _____ ☐ _____ _____

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EPR SCHEMES (1)

DEFINITION AND SCOPE OF POLICY

- Extended Producer Responsibility (EPR) assigns financial and/or operational responsibility to producers to manage post-consumer plastic packaging waste.
- Producers may comply individually or collectively through Producer Responsibility Organizations (PROs).
- Effective EPR frameworks establish recycling targets, eco-modulated fees, and monitoring systems.



For more information please read sections 3.2

Type: Indirect

Life-cycle: Manufacturing & import, Use, Recycling & recovery

Scope(s): National

3R: Reduce, Recycle

SUP(s): Can be applied to all SUP packaging to increase end of life recycling value and to mobilise private sector responsibility to facilitate efficient collection mechanisms for said SUPS. E.g.,



Plastic straws (when included with packaged drinks)



Food wrappers



Sachets



Beverage bottles

Case Studies:

- Viet Nam EPR system
- Philippines EPR system

EPR SCHEMES (2)

RECOMMENDATIONS FOR SUCCESSFUL POLICY IMPLEMENTATION

For more information please read sections 4.1

Setting the policy up

- **Phased approach** with stages and timeline e.g., starting from voluntary EPR, flat EFR fees before moving to mandatory and eco-modulated fees
- **Targets** for mass based waste reduction, recovery & recycling
- **Enforcement mandates/penalties** that are sufficiently severe, e.g., fines for not reporting packaging volumes, sufficiently high EPR fees.
- **Roles and responsibilities** clearly outlined to different agencies e.g., to monitor data, collect fees, set up collection infrastructure, etc.
- **Clear guidelines** for implementation and enforcement
- **Intensive stakeholder engagement** with producers, waste concessionaires, local councils, recyclers, etc.
- **Implementation capacity** dedicated for policy to organize and align between many moving parts

Measuring the impact

Environmental: Quantifying any reduction in SUP packaging waste and/or increase in recycling rates e.g., via waste audits and reports from obliged enterprises and PROs

Social: Qualitative engagement with affected stakeholders such that safeguards/standards can be put in place to protect against adverse effects if necessary, e.g., with informal waste workers to best integrate them into the EPR scheme

Economic: Quantitative analysis of changes in:

- Cost of manufacturing products
- End of life recycling value of SUP packaging
- Net revenue of recycling industry

Strengths

- Well established mechanism e.g., in EU with abundant existing guidance
- Shifts funding responsibility to producers of packaging
- Improves waste management systems
- Incentivises companies to design packaging for easier end-of-life treatment & lower EPR fees
- Reduces waste going to landfill

Limitations

- Still an “indirect” policy i.e., does not directly eliminate problematic SUPs
- Complex policy with many moving parts,. May take time to design and implement.
- Requires strong enforcement capacity for first few years of implementation
- Positive impact may be misleading if responsible treatment mechanisms for recovered SUPs are not developed
- Risk of exclusion of informal sector

EPR SCHEMES (3)

CHECKLIST FOR IMPLEMENTATION

Organizational | Financial | Impact

Criteria	Indicator	Action plan
Legal basis	• Law/regulation/decree	☐ _____
Implementation plan	• Policy guidelines including scope, timeline, obligated parties & products, exemptions, etc.	☐ _____ _____
Roles & responsibilities	• List of organizations for implementation, enforcement, monitoring, engagement, etc.	☐ _____ _____
Target setting	• Reduction in tons/% of SUP put on market, waste, etc. • Increase in recovery rate • Increase in recycling rate	☐ _____ _____
Capacity & staffing	• No. of monthly FTE hours for each role/expertise	☐ _____
Enforcement & compliance	• No of producers registered • No. of audits carried out • No. of penalties issued	☐ _____ ☐ _____
Stakeholder engagement	• No. of relevant stakeholders consulted	☐ _____
Up-front 'CAPEX'	• Amount in local currency	☐ _____
Long-term 'OPEX'	• Amount in local currency	☐ _____
Funding & revenue	• Amount in local currency	☐ _____
Environmental impact	• Reduction in tons/% of SUP waste • Increase in recycling rate	☐ _____ _____
Social impact	• Behavioral changes • Public health & safety • Livelihood of vulnerable groups e.g., IWWs, low income communities	☐ _____ ☐ _____ ☐ _____ _____
Economic impact	• Cost of finished goods • Industry revenue • End of life recycling value	☐ _____ ☐ _____ ☐ _____

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DISPOSAL (GATE FEES, LANDFILL BANS) (1)

DEFINITION AND SCOPE OF POLICY

- Disposal charges (tipping fees) and landfill bans for certain plastics can divert waste towards higher-value treatment options. Increasing gate fees make landfilling more expensive relative to recycling, while bans eliminate landfill as an option altogether
- Successful application requires sufficient recycling and recovery capacity to prevent unintended consequences such as illegal dumping or burning



For more information please read sections 3.2

Type: Indirect

Life-cycle: Recycling & recovery, Disposal

Scope(s): National, subnational

3R: Recycle

SUP(s): Can be applied to all SUPs if there are more sustainable alternative separation and disposal methods, e.g., mechanical recycling, chemical recycling, composting, waste to energy (as a last option)


1. Straws


2. Carrier bags


3. EPS food containers


4. Takeaway food containers


5. Stirrers


6. Cutlery & tableware


7. Beverage bottles


8. Food wrappers


9. Sachets


10. Cotton bud sticks

Case Studies:
- Singapore's high waste disposal fees and polluter pays principle
- South Korea's volume based waste fee

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DISPOSAL (GATE FEES, LANDFILL BANS) (2)

RECOMMENDATIONS FOR SUCCESSFUL POLICY IMPLEMENTATION

For more information please read sections 4.1

Setting the policy up

- **Phased approach** with stages e.g., slow increase of gate fees alongside development of recycling infrastructure until waste separation is advanced enough for bans
- **Targets** for reduction in waste landfilled
- **Enforcement mandates/penalties** that are sufficiently severe, e.g., for illegal dumping and open burning
- **Clear guidelines** for implementation and enforcement
- **Targeted stakeholder engagement** with waste concessionaires, local councils, landfill operators, etc.
- **Enforcement capacity** to monitor increased tipping fees/bans and prevent illegal disposal
- **Simultaneous development of recycling mechanisms** e.g., via other policies - EPR, DRS,

Measuring the impact

Environmental: Quantifying any:

- Reduction in waste landfilled and resulting environmental benefits (e.g., reduced pollution) via reports from landfill operator
- Increase in recycling rates e.g., via audits & reports from recyclers, PROs, etc.

Social: Qualitative engagement with affected stakeholders such that safeguards can be put in place to protect against adverse effects if necessary, e.g., with informal waste workers, communities living near landfills, etc. to observe impact on health and wellbeing or income

Economic: Quantitative analysis of changes in:

- End of life recycling value of SUP packaging
- Net revenue of recycling industry

Strengths

- Targets landfilling directly, which is a significant environmental and social issue globally and particularly in the ASEAN region
- In theory easy to implement and enforce

Limitations

- High risk of unintended consequences e.g., illegal waste disposal methods like open burning and dumpsites which may be difficult to enforce against
- Requires implementation of alternate waste processing methods like recycling, composting, at scale

DISPOSAL (GATE FEES, LANDFILL BANS) (3)

CHECKLIST FOR IMPLEMENTATION

Organizational | Financial | Impact

Criteria	Indicator	Action plan
Legal basis	• Law/regulation/decree	☐ _____
Implementation plan	• Policy guidelines including scope, timeline, obligated parties, exemptions, etc.	☐ _____ _____
Roles & responsibilities	• List of organizations for implementation, enforcement, monitoring, engagement, etc.	☐ _____ _____
Target setting	• Reduction in tons/% of SUP waste disposed e.g., landfilled	☐ _____ _____
Capacity & staffing	• No. of monthly FTE hours for each role/expertise	☐ _____
Enforcement & compliance	• No. of monthly inspections including e.g., waste audits, illegal dumping sites • No. of penalties issued	☐ _____ ☐ _____
Stakeholder engagement	• No. of relevant stakeholders consulted	☐ _____
Up-front 'CAPEX'	• Amount in local currency	☐ _____
Long-term 'OPEX'	• Amount in local currency	☐ _____
Funding & revenue	• Amount in local currency	☐ _____
Environmental impact	• Reduction in tons/% of SUP waste • Increase in recycling rate • Reduction in pollution from e.g., landfilling, incineration	☐ _____ _____
Social impact	• Behavioral changes • Public health & safety • Livelihood of vulnerable groups e.g., IWWs, low income communities	☐ _____ ☐ _____ ☐ _____ _____
Economic impact	• Industry revenue • End of life recycling value	☐ _____ ☐ _____ _____

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DRS (SINGLE-USE) (1)

DEFINITION AND SCOPE OF POLICY

- Single-use Deposit Refund Schemes (DRS) introduce refundable deposits on selected single-use items (e.g., PET bottles) to increase collection and recycling rates.
- DRS systems can achieve return rates above 90% but require advanced monitoring, clearing systems, and strong administrative capacity.

For more information please read sections 3.2



Type: Indirect

Life-cycle: Marketing & sale, Use, Disposal, Recycling & recovery

Scope(s): National, subnational

3R: Recycle

SUP(s): Can be applied to SUPs that are rigid, standardized, and possess a sufficient commodity value to incentivize return and offset processing costs, like PET bottles, rather than low-value, flexible items



7. Beverage bottles

Case Studies:
- South Korea's voluntary, single-use DRS
- Estonia's mandatory, single-use DRS

DRS (SINGLE-USE) (2)

RECOMMENDATIONS FOR SUCCESSFUL POLICY IMPLEMENTATION

For more information please read sections 4.1

Setting the policy up

- **Administration and operation** of DRS is often done by PROs or are private sector led, and are a collection mechanism for EPR
- **Clear targets** for collection of SUP
- **Enforcement mandates/penalties** that are sufficiently severe, e.g., fines for companies that fail to participate within time frame
- **Clear guidelines** for implementation and enforcement
- **Targeted stakeholder engagement** in design of DRS system and mechanisms for return e.g., with supermarkets
- **Simultaneous development of recycling mechanisms** e.g., via other policies - EPR, DRS,
- **Transparent** aggregation and usage of unclaimed deposits for waste management/recycling development

Measuring the impact

Environmental: Quantifying any reduction of the SUP in waste and/or increase in recycling rates e.g., via waste audits and reports from obliged enterprises and PROs

Social: Qualitative engagement with affected stakeholders such that safeguards/standards can be put in place to protect against adverse effects if necessary e.g., with informal waste workers on how best to integrate them into the DRS so they do not lose income

Economic: Quantitative analysis of changes in:

- End of life recycling value of SUP
- Net revenue of recycling industry
- Revenue of informal waste workers

Strengths

- Incentivises public to separate and bring SUPs back for recycling, hence lowering collection and transport cost for waste concessionaires and recyclers
- There are existing global benchmarks to learn from

Limitations

- Range of SUPs that are suitable is extremely limited
- May face backlash from brand owners unless implemented as a mandatory policy for all, i.e., a “level playing field”
- May require significant infrastructure to develop aggregation points
- High initial implementation barrier in AMS
- Risk of exclusion of informal sector

DRS (SINGLE-USE) (3)

CHECKLIST FOR IMPLEMENTATION

Organizational | Financial | Impact

Criteria	Indicator	Action plan
Legal basis	• Law/regulation/decree	☐ _____
Implementation plan	• Policy guidelines including scope, timeline, obligated parties & products, exemptions, etc.	☐ _____
Roles & responsibilities	• List of organizations for implementation, enforcement, monitoring, engagement, etc.	☐ _____
Target setting	• Reduction in tons/% of SUP put on market, waste, etc. • Increase in recovery rate • Increase in recycling rate	☐ _____ ☐ _____ ☐ _____
Capacity & staffing	• No. of monthly FTE hours for each role/expertise	☐ _____
Enforcement & compliance	• No of producers registered • No. of audits carried out • No. of penalties issued	☐ _____ ☐ _____
Stakeholder engagement	• No. of relevant stakeholders consulted	☐ _____
Up-front 'CAPEX'	• Amount in local currency	☐ _____
Long-term 'OPEX'	• Amount in local currency	☐ _____
Funding & revenue	• Amount in local currency	☐ _____
Environmental impact	• Reduction in tons/% of SUP waste • Increase in recycling rate	☐ _____
Social impact	• Behavioral changes • Public health & safety • Livelihood of vulnerable groups e.g., IWWs, low income communities	☐ _____ ☐ _____ ☐ _____
Economic impact	• Cost of finished goods • Industry revenue • End of life recycling value	☐ _____ ☐ _____ ☐ _____

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DRS (MULTI-USE) (1)

DEFINITION AND SCOPE OF POLICY

- Multi-use Deposit Refund Schemes (DRS) apply deposits to durable, multi-use packaging items, creating financial incentives for consumers to return them for reuse.
- These systems require coordinated logistics, harmonized standards, and reliable clearing mechanisms. While potentially costly to establish, they can provide the backbone for large-scale reuse models.



For more information please read sections 3.2

Type: Indirect

Life-cycle: Marketing & sale, Use, Recycling & recovery

Scope(s): National, subnational

3R: Recycle

SUP(s): Can be applied to replace SUPs like food and beverage takeaway/delivery packaging with more rigid, standardised reusable containers that can be incentivize to be cleaned and returned



4. Takeaway food containers

Case Studies:

- Japan's private sector led, voluntary multi-use DRS
- Sweden's voluntary multi-use DRS

DRS (MULTI-USE) (2)

RECOMMENDATIONS FOR SUCCESSFUL POLICY IMPLEMENTATION

For more information please read sections 4.1

Setting the policy up

- **Administration and operation** of DRS is often done by F&B companies or delivery companies that have reverse logistics
- **Enforcement mandates/penalties** that are sufficiently severe, e.g., fines for companies that fail to participate if made mandatory to offer as an option to consumers
- **Clear guidelines** for implementation and logistics
- **Targeted stakeholder engagement** in design of DRS system and reuse containers with consumers, F&B vendors and delivery companies
- **Lower cost of product** for consumer likely necessary to incentivise, i.e., could be paired with policies that increase SUP packaging cost like “EPR” or “incentives for alternatives”

Measuring the impact

Environmental: Quantifying any reduction of the replaced SUP takeaway containers in waste via waste audits and/or as reported by the delivery companies/F&B vendors.

Social: Qualitative engagement with affected stakeholders e.g., consumers and vendors about “convenience” and “hygiene” of system. such that safeguards/standards can be put in place to protect against adverse effects if necessary.

Economic: Quantitative analysis of changes in:

- Net cost of reverse logistics/return mechanism for delivery company and/or F&B vendors.

Strengths

- Incentivises public to transition to reuse model from single use model

Limitations

- Range of SUPs that are suitable is extremely limited
- Lack of successful global benchmarks to learn from
- Requires major behavior change from consumers to make successful
- May be costly to set-up and run for low participation rate
- Logistically and operationally challenging

DRS (MULTI-USE) (3)

CHECKLIST FOR IMPLEMENTATION

Organizational requirements | Financial modelling | Impact assessment

Criteria	Indicator	Action plan
Legal basis	• Law/regulation/decree	☐ _____
Implementation plan	• Policy guidelines including scope, timeline, obligated parties & products, exemptions,etc.	☐ _____ _____
Roles & responsibilities	• List of organizations for implementation, enforcement, monitoring, engagement, etc.	☐ _____ _____
Target setting	• Reduction in tons/% of SUP put on market, waste, etc. • Adoption rate of DRS	☐ _____ ☐ _____
Capacity & staffing	• No. of monthly FTE hours for each role/expertise	☐ _____
Enforcement & compliance	• No of producers registered • No. of audits carried out • No. of penalties issued	☐ _____ ☐ _____
Stakeholder engagement	• No. of relevant stakeholders consulted	☐ _____
Up-front 'CAPEX'	• Amount in local currency	☐ _____
Long-term 'OPEX'	• Amount in local currency	☐ _____
Funding & revenue	• Amount in local currency	☐ _____
Environmental impact	• Reduction in tons/% of SUP usage and waste	☐ _____ _____
Social impact	• Behavioral changes • Public health & safety • Livelihood of vulnerable groups e.g., IWWs, low income communities	☐ _____ ☐ _____ ☐ _____ _____
Economic impact	• Industry revenue (due to increased cost of reverse logistics, return mechanism, etc)	☐ _____ ☐ _____ ☐ _____

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CHECK-IN POINT 1 – CAPACITY

While designing a SUP policy, it is important to consider the policymaker's administrative and financial capacity. This is one of the key drivers to determine what policy option, SUP targeted, scope, etc. is suitable, to enable a higher likelihood of success.

For more information please read section 4.2

	Questions for self assessment
Financial capacity	• Do you have access to sufficient funding for this policy? • Is it within the government budget? • Does the policy itself generate funding that can be used?
Implementation capacity	• Do you have access to sufficient manpower and expertise for stakeholder engagement, setting up infrastructure, public education, etc.? • Is it within government agencies or does it require the support of NGOs, private sector, etc.
Enforcement capacity	• Do you have access to sufficient manpower for sustained, long term enforcement of the policy? • Is it within government agencies or does it require the support of NGOs, private sector, etc.
Monitoring capacity	• Do you have access to sufficient manpower and expertise for long term monitoring of the impact of the policy? • Is it within government agencies or does it require the support of NGOs, private sector, etc.

After answering the questions, review what the responses imply for the policy's feasibility. If major gaps appear, consider sequencing or complementary actions before rollout.

	Implications of self assessment
If Financial capacity is low	• Start with low-cost instruments (awareness campaigns, targeted bans) that deliver visible results with limited funding. • Consider partnerships for pilot initiatives.
If Implementation capacity is low	• Begin with administratively simple measures (partial bans, voluntary agreements). • Strengthen delivery through training, technical guidance, and partnerships with, for instance, NGOs or private actors.
If Enforcement capacity is low	• Focus on simple and clearly defined enforcement structures that can be managed with existing staff and systems. • Gradually introduce more complex mechanisms as institutional experience grows.
If Monitoring capacity is low	• Focus on a limited set of key indicators that are easy to collect and verify rather than complex ones. • Integrate these indicators into existing data systems. • As capacity increases, gradually expand monitoring complexity by adding more detailed metrics.

Mandatory policies achievable with low capacity → Mandatory policies high capacity needed

Bans including partial bans	"Low hanging fruit" SUPs (stirrers, straws, cotton buds, etc.) • *Enforcement/Financial/Implementation: Focus on few manufacturers instead of users* • *Monitoring: Observe prevalence in the market*	SUPs with limited alternatives (sachets, food wrappers, etc.) • *Enforcement/Financial/Implementation: Requires incentives for alternatives, redesign for larger filling size, increased reuse and refill systems, etc.: May face resistance and illegal manufacturing*
Disincentives (taxes, fees, penalties)	SUPs with existing alternatives in the market • *Enforcement/Financial/Implementation: Use existing tax/fee structures at national/subnational levels* • *Monitoring: Observe taxes/fees collected to track resulting change in SUP consumption*	
Design Standards	All SUPs whose design can be made more circular e.g., recyclable, with recycled content, lower headspace: • *Financial/Implementation: Initial development can be supported by private sector where lots of existing guidelines* • *Monitoring: Observe recycling rate, or direct reduction in virgin SUP use per product sold.*	All SUPs whose design can be made more circular e.g., recyclable, with recycled content, lower headspace: • *Enforcement: Requires frequent spot checks, lab testing for wide range of products*
Incentives or subsidies for alternatives	All SUPs with technically feasible alternatives • *Implementation: Using existing grant/incentive systems or government green procurement* • *Monitoring: Observe sales/revenue of alternatives vs SUPs*	All SUPs with technically feasible alternatives • *Financial: Subsidies require direct investment from government* • *Enforcement: Requires frequent spot checks, testing of alternatives e.g., compostable to ensure matching disposal*
Reuse and refill systems	Products feasible for refill systems e.g., detergent, dry grains and spices • *Monitoring: Observe change in SUPs "put on market"*	Products feasible for refill systems e.g., detergent, dry grains and spices • *Enforcement: Requires frequent spot checks to ensure compliance* • *Financial: CAPEX intensive to set up infrastructure and may result in long term OPEX from manpower needed* • *Implementation: May face resistance from retailers and brand owners. Pilots needed to test efficiency of refill models.*
Labelling	All recyclable SUPs • *Financial/Implementation: Leverage existing voluntary labelling schemes and collaborate with private sector* • *Monitoring: Observe recycling rate*	All recyclable SUPs • *Enforcement: Requires frequent spot checks, that relevant products in the market are using the label*
EPR Schemes	All SUP waste • *Financial/Implementation: Leverage existing relationships with licensed waste operators, landfill operators etc.* • *Monitoring: Observe recovery and recycling rates*	All packaging SUPs • *Enforcement: Requires audits to ensure recovered volumes are accurate* • *Financial: Requires initial investments into public engagement, waste management infrastructure, stakeholder engagement, etc.* • *Implementation: Complex system with many moving parts that need to be coordinated including developing legal framework and guidelines, pilots, etc.* • *Monitoring: Requires compliance from obliged companies to disclose POM data, recovery rate, recycling rate*
Disposal (gate fee, landfill ban)		All SUP waste • *Enforcement: Requires strong on-ground capacity against likely resistance, illegal dumping, burning of waste, unlicensed waste management companies etc.*
DRS (single-use)		Suitable packaging SUPs e.g., PET bottles • *Enforcement/Implementation: May face resistance from consumers, brand owners, retailers. Requires compliance from obliged companies to embed additional DRS charge* • *Financial: Requires initial investments into public engagement, collection infrastructure, stakeholder engagement, etc.* • *Monitoring: Requires compliance from obliged companies to disclose POM data, recovery rate, recycling rate*
DRS (multi-use)		Suitable packaging SUPs e.g., take-away food containers, drink cups • *Enforcement: May face resistance from consumers, vendors, delivery companies. Requires compliance from obliged companies to offer reuse option* • *Implementation: Requires significant R&D, pilots, etc. to set up optimal mechanisms e.g., reverse logistics* • *Financial: Requires initial investments into public engagement, collection infrastructure, stakeholder engagement, etc.* • *Monitoring: Observe return rates and reduction in SUP usage rates*

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CHECK-IN POINT 2 – ROOT CAUSES

Before implementing a SUP policy, it is important to consider **why** the SUP is being used and what measures must be taken to address this **root cause**. This helps policymakers select and design policies with the highest likelihood of success for their individual country contexts and the targeted SUP.

For more information please read section 4.3

Convenience and consumer habits	• Convenience is a key consideration for the F&B sector; feasible alternatives should be established before phasing out specific SUPs such as **carrier bags, takeaway containers/bags**, etc • Public awareness initiatives should promote eco-friendly choices and distinguish between essential and non-essential SUP usage.
Cost and informal economy	• The cost of doing business must be assessed to ensure alternatives are cost-effective or that costs passed to consumers remain reasonable. • For vulnerable groups reliant on **sachet** products, refill systems could offer a more affordable alternative.
Hygiene and food safety	• SUPs usage as primary packaging in F&B, sanitary and pharmaceutical items will need higher consideration of hygiene and food safety. However secondary packaging can be replaced with non-SUP alternatives • Eliminating excessive packaging is needed especially post Covid-19 era, where fresh food is packaged in individual packaging
Behavioral and cultural norms	• Rampant use of SUPs from Behavioral and cultural norms need to be avoided (e.g. **drinks packaged** in SUP and **plastic cutleries** used for dine in) • Awareness campaigns to both businesses and consumers to avoid unnecessary SUP being used and promote reusable options
Structural and market drivers	• Brands could also build consumer behavior by how they market and packaged their products (e.g. sachets, individual packaging using food wrappers, etc) • Control and incentives targeting brands to use more eco-friendly products or reduce usage of plastic
Governance and policy environment	• Unintended consequences from government policies may occur if viable alternatives are not available or promotion of alternatives that could have negative impact to the environment (e.g., promotion of reusable bags that degrades into microplastic)

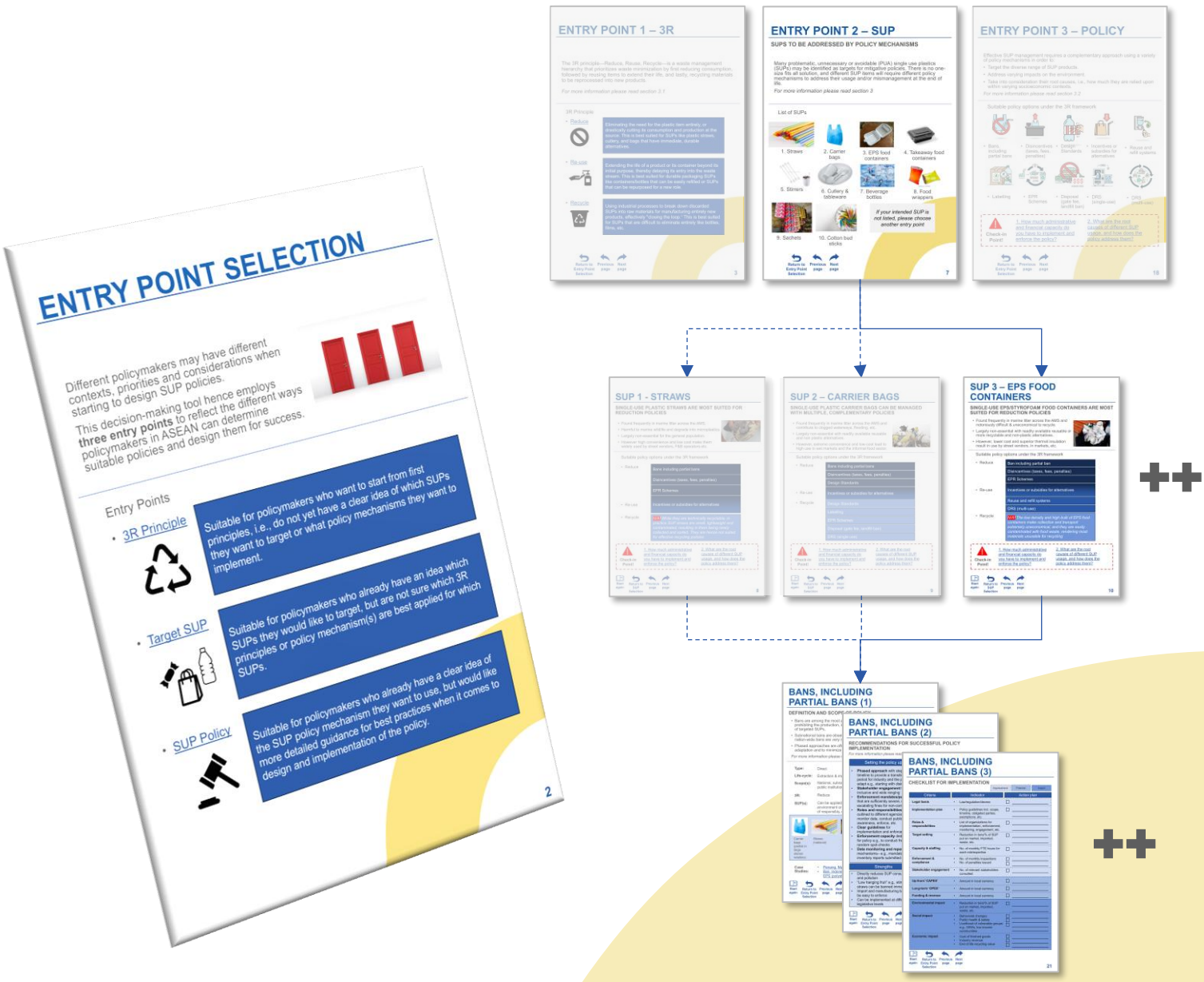
For each of the above root causes, please use the questions below to self-assess which would be most relevant for your country's context and the SUP policies you are considering.

Convenience and consumer habits	• Does your policy make sustainable alternatives (e.g., reuse/refill systems or multi-use systems) as easy and available as single-use items? • Does it help shift convenience culture through awareness, nudges, or design changes? **If not: Complement with awareness campaigns, reuse/refill infrastructure, or bans on high-convenience items**
Cost and informal economy	• Does your policy account for the cost gap between single-use and alternative options? • Does it protect MSMEs or informal workers from disproportionate transition costs? **If not: Pair with subsidies, incentives for alternatives, or EPR schemes to rebalance costs and support vulnerable actors.**
Hygiene and food safety	• Does the policy differentiate between real hygiene needs and perceived cleanliness? • Are there standards or education campaigns to support safe reuse? **If not: Add design standards, hygiene guidelines, or consumer awareness initiatives to build trust in reusable systems.**
Behavioral and cultural norms	• Does the policy consider entrenched habits or cultural expectations that favor disposables? • Is it supported by campaigns that normalize reuse and sustainable consumption? **If not: Reinforce with education programs, labelling, or community-based engagement to shift public behavior**
Structural and market drivers	• Does your policy address the underlying systems - such as retail models or logistics - that lock in single-use formats? • Are supportive infrastructures (collection, refill, DRS) in place? **If not: Integrate infrastructure investment, reuse logistics, or DRS frameworks to ensure long-term viability.**
Governance and policy environment	• Are institutional mandates clear, and do agencies have resources to enforce the policy? • Is monitoring built into the design from the start? **If not: Strengthen coordination, data systems, and reporting frameworks before scaling the policy.**

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END OF INTERACTIVE TOOLKIT

GUIDING POLICY DECISION MAKING



Exit now

Start again

5.2 Impacts of Policy Selection

Understanding the impacts of SUP policies is essential for designing measures that are both effective and equitable. Each policy option carries implications that extend beyond environmental outcomes, influencing markets, employment, governance systems, and social equity. This section provides a structured framework for assessing these impacts, and enables to anticipate consequences, manage trade-offs, and align interventions with national priorities.

Policy interventions targeting SUPs can generate wide-ranging socioeconomic and environmental outcomes. The effectiveness of a chosen policy therefore depends on understanding these systemic effects and sequencing actions so that long-term transformation can be achieved.

The analysis of policy impacts is organized around three primary dimensions that together capture the full range of effects associated with SUP measures:

- **Socioeconomic impacts**: Encompassing employment, market transformation, competitiveness, and distributional outcomes across consumer groups and income levels.
- **Environmental impacts**: Relating to waste reduction, material circularity, emission mitigation, and ecosystem health.
- **Governance and institutional impacts**: Addressing the administrative, regulatory, and financial capacities that determine implementation success.

These dimensions are supported by cross-cutting considerations such as financing, time horizon, behavioral change, and stakeholder inclusion. Together, they offer a comprehensive framework for evaluating both the direct and indirect implications of different SUP policy instruments.

ASEAN Member States can use this framework as a decision-support tool. It helps policymakers evaluate which policy options are best suited to national circumstances, identify sequencing opportunities, and balance short-term feasibility with long-term sustainability. The framework also facilitates policy coherence by encouraging alignment between environmental, economic, and social objectives.

5.2.1 Overview of Impact Categories and Key Considerations

Table 5 provides a consolidated overview of typical benefits, trade-offs, and design considerations associated with SUP reduction policies. It sets the foundation for the section by translating general impact dimensions into practical guidance for policy analysis. This ensures connecting the conceptual framing of impacts with concrete examples of how these play out in practice, allowing policymakers to anticipate outcomes and apply evidence-based decision-making when evaluating policy options.

Table 5: Summary of Policy Impacts, Trade-offs, and Design Considerations

Impact Category	Positive Outcomes	Key Trade-offs / Risks	Design and Implementation Considerations	Indicative Indicators
Socioeconomic	Green job creation in recycling, reuse, and alternative-material sectors;	Short-term compliance costs for businesses; consumer	Pair bans or levies with transition support and complementary measures	Percentage of SUP items replaced by sustainable alternatives;

	reduced dependency on imported virgin plastics; strengthened micro, small, and medium enterprises (MSME) innovation in circular solutions.	price increases if alternatives are limited; risk of informal-sector exclusion.	(subsidies, EPR, training); integrate informal sector participation; conduct affordability analysis for consumers.	jobs created or retained in circular sectors; share of informal workers formally integrated.
Environmental	Reduction in SUP leakage and litter density; lower GHG emissions from avoided virgin plastic production; healthier marine and coastal ecosystems.	Risk of material substitution with higher-footprint alternatives; limited data on leakage reduction; benefits visible mainly in the medium term.	Combine bans with eco-design and reuse incentives; include life-cycle assessments for approved alternatives; establish baseline and indicator systems for leakage and GHG.	Tons of SUP prevented or collected; reduction in marine litter index; change in packaging recycled-content share.
Governance and Institutional	Improved coordination across ministries and levels of government; increased data transparency and accountability; greater stakeholder ownership and compliance.	Policy fragmentation if roles are unclear; weak enforcement due to resource gaps; slow uptake of reporting systems.	Assess readiness of administrative and financial capacity before adopting complex instruments (EPR, DRS); establish cross-agency committees and reporting platforms; integrate M&E into policy design.	Enforcement rate or compliance audits conducted; agencies with defined SUP mandates; frequency of stakeholder coordination meetings.
Cross-cutting	Integration of circular-economy principles; stronger regional alignment with the ASEAN Action Plan on Marine Debris.	Unequal benefits across sectors or income groups; data and financing gaps limiting long-term tracking.	Sequence policies from quick-win instruments (bans, levies) toward systemic approaches (EPR, DRS); embed monitoring and adaptive feedback loops.	Composite SUP reduction index; collection efficiency.

This table provides a foundation to anticipate potential outcomes and ensure that supporting measures are in place to mitigate risks, if needed. Before adopting a new measure,

policymakers are encouraged to review their institutional readiness, financial capacity, and data availability. Aligning policy ambition with operational feasibility reduces the risk of partial implementation and enhances the credibility of SUP reduction strategies.

5.2.2 Policy-Specific Impact Patterns

Following the general overview of impacts and trade-offs in Table 5, this section now moves to a more detailed assessment of how individual policy instruments operate in practice.

It is critical to understand that no single intervention acts in isolation; rather, each policy affects different points of the SUP value chain and interacts with existing regulatory and market systems. Some measures, such as bans and levies, produce immediate and visible effects, while others, including EPR or eco-design standards, create slower but more systemic transformations by reshaping market incentives and production patterns.

Introducing Table 6 at this point therefore provides a logical next step: it translates the conceptual impact framework into concrete, policy-specific evidence, summarizing the expected socioeconomic, environmental, and governance implications for each of the ten SUP policy options, along with their likely timeframes and associated trade-offs.

Table 6: Summary of Policy Impacts for the Ten SUP Policy Options

Policy Option	Expected Socioeconomic Impacts	Expected Environmental Impacts	Governance and Implementation Considerations	Typical Time to Impact	Key Trade-offs / Risks
Bans, including partial bans	Immediate market adjustment; cost implications for MSMEs; potential job losses if alternatives lag.	Rapid reduction in litter and leakage for targeted items.	Requires clear scope, enforcement, and awareness campaigns; risk of non-compliance if monitoring weak.	Short term (≤ 2 years)	Material substitution with higher-footprint alternatives; informal-sector displacement.
Disincentives (taxes, fees, penalties)	Generates revenue; minimal disruption if phased; encourages innovation.	Reduced consumption; indirect emissions savings.	Needs fiscal coordination and earmarking of revenue for waste management.	Short term	Regressive impacts if costs passed to consumers.
Design standards	Drives innovation and competitiveness; potential compliance	Prevents waste generation at source; enhances long-term	Needs standard-setting authority and lab testing capacity.	Long term (≥ 5 years)	Slow uptake without market incentives.

	costs for MSMEs.	resource efficiency.			
Labelling	Increases consumer awareness and encourages correct sorting behavior; supports green product differentiation.	Indirectly improves recycling quality by reducing contamination.	Requires harmonized standards and verification systems; needs communication campaigns.	Medium term (3–5 years)	Limited behavioral impact without complementary measures.
EPR schemes	Drives new recycling markets; potential costs for producers; creates green jobs.	Higher recycling and recovery rates over time.	Requires legal basis, data systems, and enforcement; initially high administrative costs.	Medium term (3–5 years)	Weak compliance if data capacity low.
Incentives or subsidies for alternatives	Stimulates green entrepreneurship; supports MSMEs in transitioning to sustainable products.	Increases uptake of biodegradable and compostable materials.	Requires clear eligibility criteria and sustainability standards for supported products.	Short to medium term	Risk of promoting non-scalable or environmentally questionable alternatives.
Disposal (gate fee, landfill ban)	Encourages waste diversion to recycling; potential cost increase for municipalities.	Reduces landfilling and open dumping; lowers pollution from unmanaged waste.	Needs adequate alternative infrastructure; requires enforcement and public communication.	Medium term (3–6 years)	Risk of illegal dumping if enforcement weak.
DRS (single-use)	Creates reverse logistics jobs; encourages consumer participation.	Increases collection rates (often >80%).	Requires infrastructure, traceability, and transparent refund	Medium to long term (3–6 years)	High start-up cost; potential fraud if monitoring weak.

			mechanisms .		
DRS (multi-use)	Establishes robust systems for reusable packaging; supports reuse-oriented business models.	Significantly reduces SUP consumption through repeated container cycles.	Requires inter-brand cooperation, logistics networks, and clear regulatory mandates.	Long term (≥ 5 years)	High upfront costs; behavioral resistance from consumers or retailers.
Reuse and refill systems	Creates service-sector jobs; stimulates local entrepreneurship.	Reduces overall material throughput and waste leakage.	Needs hygiene regulation updates, logistics, and consumer awareness.	Medium to long term (3–8 years)	Behavioral resistance; upfront infrastructure cost.

5.2.3 Environmental Impacts

Environmental impacts are the most visible and quantifiable outcomes of SUP policy interventions. They encompass reductions in pollution, improvements in waste management efficiency, and long-term gains in biodiversity and ecosystem resilience. The reduction of SUP production and consumption directly decreases leakage into land and marine environments, curbs open dumping and burning, and lowers greenhouse-gas (GHG) emissions from virgin plastic production and disposal. These effects collectively advance national and global sustainability goals, including SDG 12.5 on waste reduction and the ASEAN Regional Action Plan on Marine Debris.

Key environmental outcome areas and indicative indicators:

- **Leakage reduction:** Tons of SUPs prevented from entering waste streams; reduction in litter share of SUPs in marine and terrestrial environments.
- **Circular resource flows:** Percentage of recycled content in packaging; increase in recycled-material throughput and reuse rates.
- **Pollution and GHGs:** Reduction in open-burn incidents; measurable decrease in plastics-related emissions and microplastic concentration.
- **Biodiversity and ecosystems:** Decline in wildlife entanglement and ingestion rates; improved health of coastal and marine habitats.

Common challenges and transitional considerations:

- **Time horizon for impact:** Environmental benefits often materialize over the medium to long term (3–10 years), requiring consistent monitoring and realistic expectations.
- **Material substitution risk:** Restrictions on certain plastics may lead to shifts toward materials with higher environmental footprints, such as coated paper or multilayer alternatives.

- **Data limitations:** Reliable measurement remains constrained by gaps in leakage pathways, microplastic data, and waste characterization at local levels.
- **Fragmented policy approaches:** Many policies focus on downstream waste management without integrating upstream interventions, which limits long-term environmental gains.

Crucial policy-design implications:

- Adopt a full life-cycle approach that integrates upstream measures such as design standards and reuse systems alongside downstream waste management to maximize impact.
- Embed life-cycle assessment and environmental cost-benefit analysis into regulatory design and approval of alternatives.
- Establish robust baseline data and harmonized monitoring frameworks for leakage reduction and GHG emissions.
- Promote regional data-sharing and research collaboration to close evidence gaps and improve comparability across AMS.

Policy relevance and strategic importance: Environmental outcomes are often the primary motivation for SUP regulation, yet they depend on complementary economic and governance factors. The long-term success of environmental measures hinges on administrative readiness, market maturity, and the availability of sustainable alternatives. Policymakers should ensure that environmental objectives are embedded across all SUP policy instruments, supported by realistic timelines and measurable targets. By integrating monitoring systems and adaptive review mechanisms from the outset, AMS can ensure sustained progress toward regional and global environmental goals.

5.2.4 Governance, Implementation, and Institutional Impacts

The effectiveness of SUP policies rests on the strength of governance, coordination, and institutional readiness. Many AMS still face challenges such as fragmented responsibilities, limited technical capacity, and weak enforcement. Harmonized data systems, clearly defined mandates, and consistent monitoring frameworks are essential for translating policy ambition into tangible outcomes.

Key outcome areas and indicative indicators:

- **Institutional capacity:** Number of agencies with defined mandates; training and staffing levels; dedicated budget lines for implementation.
- **Multi-level coordination:** Existence of national–subnational committees; regular inter-agency meetings; frequency of joint reviews.
- **Monitoring and evaluation:** Baseline data established; operational data-reporting frameworks; adaptive review mechanisms in place.
- **Enforcement and compliance:** Regular inspections conducted; measurable compliance rates; penalties applied and documented.
- **Stakeholder engagement and equity:** Inclusiveness of participation across all sectors (including informal); transparency and accountability in decision-making.

Common challenges and barriers:

- **Institutional overlap:** When multiple ministries share responsibility, mandates can become blurred and weaken accountability.
- **Limited staffing and capacity:** Many agencies lack technical expertise or sufficient personnel to monitor and enforce new measures.
- **Data fragmentation:** Absence of unified reporting systems hinders accurate tracking of SUP flows and evaluation of outcomes.
- **Financial constraints:** Insufficient budget allocation for enforcement and public outreach undermines sustained implementation.

Crucial policy-design implications:

- Assess institutional readiness before selecting complex instruments such as EPR or DRS. Limited enforcement capacity or data gaps can render such policies ineffective or inequitable.
- Ensure that governance structures match the policy ambition. For straightforward bans, clear roles and realistic timelines are key; for systemic measures, coordination mechanisms must encompass fee collection, reporting, and stakeholder dialogue.
- Embed M&E systems from the outset - establish baselines, define clear indicators, and plan for periodic reviews to guide adaptive management.
- Safeguard equity and inclusion, particularly of vulnerable groups and informal-sector workers, to maintain social legitimacy and sustainable outcomes.

Insights from regional practice: Experience from ASEAN shows that administrative and financial capacity are decisive for success. Policies achieve the strongest outcomes when mandates are clear and supported by practical local delivery. Subnational and sector-specific leadership, backed by national coordination, improves compliance and visibility. Inclusive stakeholder engagement and communication also increase acceptance and reduce resistance. Phased, well-sequenced implementation allows time for adaptation, especially when supported by clear institutional responsibilities and transparent financing.

While this section summarizes key lessons, full insights and policy-specific examples are presented in Section 4. [Click here]

5.2.5 Socioeconomic Impacts

SUP policies have far-reaching socioeconomic implications that influence labor markets, industrial dynamics, and consumer behavior. While they can stimulate new employment opportunities and circular-economy entrepreneurship, they may also impose transitional costs on businesses and households. The extent of these impacts depends on the scope, timing, and design of each policy, as well as on the availability of affordable alternatives and supporting infrastructure.

Key outcome areas and indicative indicators:

- **Industry transformation:** Number of enterprises shifting to sustainable materials; investments in reuse/refill business models.

- **Employment and livelihoods:** Net jobs created (formal); informal-sector inclusion and transition to formal contracts.
- **Consumer cost and equity:** Change in average cost of alternatives; affordability impacts on low-income households.
- **Waste-system efficiency:** Improvement in collection and segregation rates; reduction in informal sector exclusion.

Common challenges and transitional effects:

- **Short-term disruptions:** Rapidly introduced bans or levies can strain MSMEs and informal enterprises lacking adaptation time.
- **Cost implications:** Higher upfront costs for sustainable alternatives can affect MSMEs and consumers.
- **Behavioral inertia:** Shifts in consumer habits are slow, requiring sustained awareness and incentives.
- **Informal-sector exclusion:** Failure to integrate informal workers may reduce both equity and operational efficiency.

Mitigation and support measures:

- Introduce targeted financial support such as subsidies, tax relief, or microcredit to assist small enterprises in transitioning to sustainable alternatives.
- Integrate the informal sector through training, certification, and safety programs to protect livelihoods and strengthen waste-collection efficiency.
- Promote capacity building and skills development to prepare the workforce for emerging circular-economy industries.
- Implement phased transitions and inclusive dialogues to minimize disruption and ensure equitable outcomes.

Crucial policy-design implications:

- **Lifecycle integration:** Combine upstream measures (e.g., design standards, reuse systems) with downstream waste management to maximize socioeconomic and environmental benefits.
- **Data and monitoring:** Strengthen data systems to track employment, industry transformation, and informal-sector participation.
- **Anticipate trade-offs:** Bans and levies deliver quick results but may impose short-term economic burdens; systemic instruments like EPR and DRS create longer-term opportunities but require investment.
- **Equity safeguards:** Incorporate transition periods, training, and social protection mechanisms to support vulnerable groups.

Inclusion of informal workers is both a social and operational priority. Formalizing their participation through legal recognition, fair compensation, and safety standards improves efficiency and equity while enhancing traceability. Broader social benefits like improved public

health and resilience emerge when SUP reduction policies are implemented through inclusive, phased, and well-supported transitions.

In sum, socioeconomic impacts must be systematically assessed alongside environmental and governance effects to ensure balanced, just, and sustainable outcomes across ASEAN.

5.2.6 Effective Stakeholder Engagement

Effective stakeholder engagement transforms policy from a regulatory exercise into a collaborative partnership. Inclusive engagement ensures legitimacy, social equity, and shared ownership of the transition away from SUPs. It also strengthens compliance by aligning diverse interests early in the policy process.

Key principles for engagement:

- Engage stakeholders from the earliest stages to shape objectives and build credibility.
- Map all affected groups comprehensively, including those likely to resist change.
- Use evidence-based communication grounded in solid baseline data to pre-empt misinformation and opposition.

Table 7: Key Stakeholder Groups and Engagement Actions

Category	Engagement Actions	Special Considerations for ASEAN
National and local governments	Establish inter-agency taskforces, co-design workshops, and coordination meetings.	Decentralized systems require strong vertical alignment to ensure coherence and consistent enforcement.
Industry and trade associations / PRO or PRO-like structures	Engage associations to co-develop groundwork for EPR; pilot voluntary data collection; coordinate equitable fee models and shared responsibility mechanisms.	In AMS without formal PROs, associations can serve as interim coordination bodies with targeted technical and legal support.
Local businesses and corporations	Organize supply-chain roundtables; create “lead user” programs for reuse/refill; recognize early adopters through green certification.	MSMEs often need technical and financial assistance to transition—support through incentives, low-interest loans, or shared infrastructure.
Informal waste workers and cooperatives	Integrate informal workers into formal schemes; provide occupational health and safety training; ensure representation in local policy committees.	Formal inclusion strengthens collection efficiency, traceability, and social equity.
Vulnerable consumer groups	Conduct focus groups on affordability; offer targeted subsidies; provide multilingual communication materials.	Protect low-income households from cost transfers; consider accessibility for rural and island communities.

Civil society, academia, and advocacy groups	Facilitate stakeholder forums; support community-based monitoring and education campaigns.	CSOs and universities play key roles in awareness-building, evidence generation, and accountability.

Engagement Phases and Good Practices:

1. **Pre-policy design:** Multi-stakeholder consultations, mapping of actors (including informal sector), and awareness baselines.
2. **Policy roll-out:** Establish advisory groups, hold public forums, and provide transparent progress updates.
3. **Post-implementation:** Create structured feedback loops and review sessions for adaptive learning.

Cross-cutting practices:

- Engage early and transparently from the problem-framing stage.
- Ensure strong multi-level coordination between national and subnational institutions.
- Maintain balanced representation through neutral facilitation and inclusive logistics (local languages, accessible venues, modest stipends).
- Institutionalize continuous feedback, regular reporting, and participatory reviews to build trust and adaptive governance.

Effective engagement turns SUP policy into a shared transition process. By combining inclusivity, transparency, and iterative dialogue, AMS can strengthen legitimacy, foster behavioral change, and ensure sustainable outcomes for all stakeholder groups.

Checklist for Effective and Inclusive Stakeholder Engagement

☐ Identify and map key stakeholders across governance levels

☐ Define engagement objectives clearly and transparently.

☐ Use a mix of consultation, collaboration, and co-production methods.

☐ Provide capacity-building resources and financial support.

☐ Maintain transparency through public reporting and feedback loops.

☐ Periodically evaluate and adapt engagement approaches

5.2.7 Monitoring and Evaluation

Monitoring and evaluation (M&E) are essential to ensure that SUP policies remain adaptive, transparent, and results-driven. They provide evidence for course correction, promote accountability, and help policymakers refine interventions in response to real-world outcomes. By embedding M&E from the start, ASEAN Member States can strengthen implementation, align efforts regionally, and sustain long-term impact.

Step 1: Establishing Baselines

Baselines form the foundation of effective monitoring. They establish the reference points for measuring progress and identifying change.

- Collect initial data on SUP consumption, leakage pathways, waste infrastructure, and informal-sector participation before introducing new measures.
- Include social and economic variables like affordability of alternatives and MSME readiness to capture broader implications.
- Coordinate regional definitions and data formats to allow comparability across AMS.
- Anticipate challenges such as data scarcity, differing measurement standards, and limited technical capacity.

Step 2: Tracking Indicators

Indicators translate policy objectives into measurable evidence. They should capture both short-term results and long-term systemic change. Example can categories include:

- **Environmental:** Reduction in SUP leakage; increase in recycled content; decline in open dumping and burning; improved marine litter index.
- **Socioeconomic:** Number of green jobs created; affordability of alternatives for low-income consumers; inclusion of informal workers in waste systems.
- **Governance:** Compliance rates; inter-agency coordination frequency; budget allocations; coverage of data-reporting systems.

To be effective:

- Track indicators regularly using standardized templates and transparent reporting.
- Link national and subnational data systems for consistent updates.
- Use mixed quantitative and qualitative approaches to capture both measurable progress and behavioral change.

Step 3: Adaptive Learning and Policy Feedback

M&E should enable continuous learning and policy refinement.

- Use monitoring results to adjust implementation strategies and strengthen coordination.
- Establish structured feedback loops between local governments, national authorities, and stakeholders.
- Institutionalize periodic reviews like mid-term evaluations or stakeholder dialogues to document lessons and share findings.
- At the regional level, ASEAN can support shared dashboards, joint data repositories, and peer-learning mechanisms to enhance regional alignment.

Step 4: Linking Back to Root Causes

Evaluation must go beyond measuring outputs to test whether policies address underlying drivers of SUP use.

- Assess if interventions reduce affordability barriers, influence consumer behavior, or strengthen waste collection systems.
- Track causal relationships: for example, whether bans reduce use or simply shift consumption toward other materials.
- Use these insights to refine policy mixes, ensuring that solutions target systemic issues rather than symptoms.

Step 5: Practical Design Considerations

- Integrate M&E during policy formulation, assigning clear institutional mandates for data collection and analysis.
- Combine quantitative metrics with qualitative feedback from stakeholders.
- Ensure transparency through regular publication of progress reports and open-access data.
- Allocate dedicated funding for monitoring activities to safeguard data continuity.
- Build capacity at both national and local levels for consistent data management.

5.2.8 Key Takeaways - Integrating Impacts into Policy Selection

SUP policies influence environmental, socioeconomic, and governance systems in interlinked ways. Understanding these interdependencies is essential for designing interventions that are both effective and equitable. Environmental outcomes often emerge over longer timescales and depend on institutional and market conditions established through governance reforms and financial mechanisms. Socioeconomic impacts are most visible in the short term, requiring proactive measures to safeguard vulnerable groups and sustain public support.

A clear understanding of the different types of policy impacts is the foundation for selecting and sequencing effective SUP reduction measures. Integration is not only about choosing the right combination of instruments but also about aligning them with institutional readiness, financial capacity, and behavioral change potential. Policymakers need a structured approach that allows them to weigh short-term feasibility against long-term transformation, ensuring that each intervention supports the next stage of systemic progress.

Key considerations for integrating impacts into policy design:

- **Balance of time horizons:** Combine fast-acting measures like bans, levies, or awareness campaigns with medium- and long-term instruments like EPR, DRS, and design standards to create a pathway from immediate results to lasting change.
- **Impact mapping:** Use the framework from Table 5 and Table 6 to map each policy option against its expected socioeconomic, environmental, and governance impacts. This helps identify synergies and avoid conflicting measures.

- **Dependencies and enabling conditions:** Assess readiness in areas such as infrastructure, financing, market maturity, and institutional coordination. Policies should only advance when basic prerequisites for implementation are in place.

- **Managing trade-offs:** Recognize that no policy delivers all benefits equally. Rapid environmental gains may impose economic costs, while systemic measures require time and investment. Anticipating these trade-offs supports realistic planning and sustained stakeholder confidence.

Building adaptive and evidence-based systems:

- Integrate monitoring and evaluation mechanisms into each policy framework to track progress, identify implementation bottlenecks, and guide adaptive improvements.
- Ensure feedback loops between national and local levels, allowing lessons from pilot initiatives or subnational policies to inform national reform.
- Adopt dynamic sequencing**:** begin with enabling measures (e.g., data systems, capacity building), follow with targeted restrictions or incentives, and transition toward comprehensive producer-responsibility or design-based interventions.

6 Annex

Background

This Guidebook responds to the growing need for structured, evidence-based support to ASEAN Member States in reducing the generation, consumption, and leakage of SUPs. It provides practical guidance for implementing effective policy measures, grounded in regional evidence and aligned with ASEAN's shared environmental objectives.

Developed under the framework of the ASEAN Regional Action Plan for Combating Marine Debris (2021–2025), the Guidebook directly supports Action 2, which calls for regional guidelines and best practices to phase out problematic and unnecessary plastics. It builds on analytical work from the regional stocktaking exercise, including the root cause analysis of SUP use, and integrates policy review findings, case studies, and socioeconomic and environmental insights.

The Guidebook serves as a decision-support tool for policymakers, helping AMS navigate policy options, identify effective combinations of instruments, and understand implementation requirements. It also links regional action to ongoing global processes, including the negotiations under the International Negotiating Committee for a legally binding instrument on plastic pollution, ensuring alignment with emerging international frameworks.

By combining technical evidence, regional coordination, and forward-looking guidance, the Guidebook aims to equip AMS with practical pathways toward circular and resource-efficient systems, reducing reliance on SUPs while supporting sustainable economic development

6.1 Annex 1 – Basis for Guidebook development / Methodology

This Guidebook was developed following a sequential analytical process. The first stage involved a stocktaking of SUP policies and initiatives across AMS, focusing on legal, financial, and operational dimensions. The second stage explored the root causes of SUP use, examining structural, behavioral, and institutional factors that sustain plastic dependency. The third stage synthesized these findings, integrating policy mapping with behavioral insights to highlight lessons, gaps, and enablers across the region. The final stage translated these analytical results into practical guiding frameworks for policymakers, providing evidence-based direction for designing and implementing SUP reduction strategies.

The foundation of the Guidebook rests on the structured stocktaking of SUP policies across AMS, designed to provide a comprehensive understanding of policy design, implementation, and observed impacts. The analysis combined desk research with case documentation to identify national, subnational, and sectoral policy instruments. Policies were included based on a minimum implementation period of two years to ensure availability of measurable insights.

This Guidebook also builds extensively on analytical findings from the World Bank supported regional study - on Single-Use Plastics in ASEAN: Developing a Coordinated Policy Approach (that the same consortium had worked on); Which provided a foundational evidence base for the policy stocktaking, root-cause analysis, and comparative assessment presented throughout the document. The study informed the identification of priority SUP product categories, policy instruments, implementation challenges, and enabling conditions across ASEAN Member States, and was used as a core reference in the development of the Guidebook's technical foundations, regional insights, and decision-support frameworks.

Each policy was analyzed through a consistent framework covering objectives, implementation mechanisms, financial structures, stakeholder involvement, and measurable outcomes. Regulatory mandates, administrative procedures, and financial models were assessed through legal texts, reports, and stakeholder interviews. Product scope and coverage were mapped across all cases, while socioeconomic impacts - both intended and unintended - were documented where data permitted. Thematic analysis identified recurring governance challenges, enforcement gaps, and enabling factors for success, forming the evidence base for the Guidebook's technical guidance.

The root-cause analysis combined extensive literature review with semi-structured interviews across five AMS. Countries were selected to represent diverse socioeconomic, cultural, and geographic contexts. Participants included government authorities, informal workers, vendors, and consumers, with interviews designed to capture behavioral, economic, and institutional dimensions of SUP consumption.

Findings were analyzed thematically through manual coding, combining deductive categories (e.g., cost, behavior, governance) with inductive insights emerging from transcripts. Additional validation was achieved through online consultations with regional stakeholders, such as NGOs, social enterprises, and private companies. The analysis revealed key behavioral and structural drivers of SUP use, complementing the policy mapping by showing where regulation aligns or diverges from lived realities.

The findings from the policy mapping and root-cause analysis were triangulated through a comparative synthesis, linking regulatory ambition with the underlying behavioral and economic dynamics of SUP use. Root causes such as affordability, consumer perception, and weak institutional capacity were compared with the scope and design of existing policies, identifying areas of alignment and disconnect.

This integrated analysis ensured that the Guidebook not only documents policy practice but also translates empirical evidence into practical, regionally tailored guidance.

Stakeholder Engagement

Stakeholder participation was embedded across all methodological stages. Early results were shared at the Technical Consultation Workshop in Jakarta (May 2025), ensuring validation and co-ownership among AMS representatives. Field interviews, expert reviews, and online consultations ensured diversity in perspectives and enhanced the representativeness of findings.

Analytical Limitations

Despite the extensive data collection, gaps in data availability and policy evaluation remain. In several AMS, monitoring systems and documentation were incomplete. To address this, triangulation and expert validation were employed to ensure analytical robustness. The methodology is thus both replicable and adaptable, allowing future updates as new evidence emerges.

6.2 Annex 2 – Selected Policy Deep Dive

Bans, Partial Bans, and Phase-Outs

Policies banning the manufacture, import, distribution, or use of specific plastic products are among the most direct and decisive instruments for tackling plastic pollution. They aim to eliminate problematic materials at their source by removing them from the supply chain and preventing their entry into consumer use. Bans can take different forms ranging from full national prohibitions to targeted restrictions each with unique policy, enforcement, and socioeconomic implications.

National bans typically target the full lifecycle of specific products, prohibiting their production, import, sale, or use within a country. They require strong coordination among ministries, clear definitions of covered products, and sufficient enforcement capacity to ensure compliance. Subnational bans, in contrast, are implemented by provincial or local governments and may focus on specific usage points such as retail distribution or food service. These decentralized approaches often allow for more adaptive enforcement but may lead to inconsistencies if not harmonized with national frameworks. Context-specific bans target environments or sectors where leakage risk is particularly high, such as protected areas, coastal regions, or tourism sites, or where alternatives are readily available, including hospitality, retail, and public institutions.

Regardless of scope, successful bans depend on clear communication, realistic timelines, and inclusive planning that accounts for affected industries and consumers. A phased approach is often critical to balance environmental objectives with socioeconomic realities. Gradual phase-outs enable producers and retailers to identify substitutes and adjust supply chains, while also giving consumers time to adapt behaviorally. Strong stakeholder engagement, monitoring, and complementary education campaigns sustain compliance beyond initial enforcement. Without these components, bans risk short-term effectiveness followed by backsliding or substitution with other problematic materials.

Disincentives and Punitive Taxes

Economic disincentives such as taxes, levies, and penalties serve as market-based tools to reduce the consumption and production of SUPs. They internalize the environmental cost of plastic pollution by making SUPs more expensive to produce, sell, or purchase, thereby encouraging shifts toward sustainable alternatives. These measures can apply at different stages of the value chain: on producers, importers, retailers, or end-users.

Effective disincentive frameworks define the taxable items clearly (for instance, plastic bags below a certain thickness or bottles of a specific volume), specify tax rates that are high enough to alter consumer behavior, and designate how collected revenues are used. Ideally, revenues support waste management improvements, circular economy innovation funds, or public awareness campaigns. Transparent use of funds strengthens public acceptance and trust.

The effectiveness of punitive taxes depends on proper enforcement and coordination between tax authorities, local governments, and businesses. Public awareness plays a decisive role: consumers must understand why they are being charged and how the funds will benefit environmental protection. Complementary communication strategies and visible reinvestment in community waste initiatives amplify the behavioral effect of these measures. Over time, fiscal disincentives not only reduce SUP demand but also foster innovation in material design, as manufacturers seek to minimize exposure to taxation.

Design Standards

Design standards are essential for reducing the environmental footprint of plastic packaging and products. They provide technical specifications that ensure materials are easier to reuse,

recycle, or compost. These standards can be mandatory, i.e. embedded in legislation, or voluntary, adopted through industry codes of practice. Both approaches shape market expectations and drive innovation.

Mandatory standards often focus on recyclability requirements, minimum recycled content, or bans on specific additives that hinder recycling. They can also specify design-for-disassembly principles or require clear labelling to facilitate sorting. When coupled with compliance monitoring, mandatory standards ensure that all producers adhere to minimum environmental performance levels. Voluntary standards and private-sector guidelines, meanwhile, often exceed regulatory requirements and help establish best practices across supply chains. They may be linked to eco-certifications or procurement preferences that reward early adopters.

The integration of design standards within EPR systems further strengthens their impact. For instance, modulated EPR fees can reward companies that produce recyclable packaging while penalizing those using non-recyclable materials. Such fee modulation incentivizes upstream changes in product design, complementing downstream collection and recycling efforts. Regionally harmonized standards within ASEAN can enhance market coherence, allowing producers to scale innovation and recyclers to process materials more efficiently. The alignment of design criteria across Member States is thus a cornerstone for regional plastics circularity.

Labelling and Transparency

Labelling policies aim to improve consumer awareness and support responsible waste management by providing accurate information on a product's composition, recyclability, and disposal methods. Clear, credible labelling empowers consumers to make environmentally responsible purchasing decisions while helping waste handlers segregate and process materials effectively.

Labelling can take several forms. Eco-labelling schemes certify products that meet certain environmental performance criteria, while recycling instruction labels provide guidance for proper disposal or segregation. Other forms include carbon footprint or material origin labels, which increase transparency across value chains. For SUPs, clear labelling on packaging components is particularly important to prevent contamination and improve collection efficiency.

An effective labelling system requires standardized definitions, verification mechanisms, and coordination with national waste management systems. Labels should use clear icons and color codes that align with local recycling schemes, ensuring consumers can act on the information provided. Mandatory labelling standards may be supplemented by voluntary certifications that allow businesses to differentiate sustainable products in the market. However, labelling alone is not sufficient: it must be backed by infrastructure that enables proper waste collection and recycling. Without functional systems, consumers' willingness to sort waste has limited effect.

Extended Producer Responsibility (EPR)

EPR represents a structural shift in how societies manage waste. It places the primary responsibility for the post-consumer stage of products on producers rather than municipalities, thereby ensuring that those who introduce products to the market bear the costs of their environmental impacts. EPR schemes typically cover financing, collection, sorting, recycling, and data reporting for materials such as packaging, electronics, and other consumer goods.

Effective EPR systems are built on clear legal frameworks that define objectives, scope, and governance arrangements. The policy's overarching aim is to incentivize waste prevention and material recovery while securing a sustainable funding source for waste management. Regulations must specify which products are covered, who qualifies as a producer, and what targets apply for collection and recycling. Responsibilities may be discharged individually by

producers managing their own take-back systems or collectively, through Producer Responsibility Organizations (PROs) that pool resources to achieve economies of scale.

The success of EPR depends on transparent fee structures and measurable performance indicators such as binding mass-based waste reduction, recovery and/or recycling targets. Producers typically pay fees based on the amount and type of packaging they place on the market, encouraging design improvements toward greater recyclability. Fee differentiation, or eco-modulation, rewards environmentally responsible choices and penalizes problematic materials. Reliable reporting systems and independent audits are necessary to track compliance and prevent free-riding.

Well-designed EPR frameworks generate several co-benefits: they promote eco-design, stimulate domestic recycling industries, and professionalize waste management systems. Importantly, EPR also improves data quality on material flows, enabling evidence-based policy decisions. However, implementation challenges remain, particularly in developing contexts. These include limited institutional capacity, lack of formal recycling infrastructure, and the need to integrate informal waste workers into the system. Addressing these challenges through gradual rollout, stakeholder consultation, and technical assistance is essential to achieving equitable and sustainable EPR outcomes.

Incentives and Subsidies for Alternatives

Incentives and subsidies play an important role in accelerating the transition away from SUPs by encouraging the adoption of environmentally preferable materials and reusable systems. These economic instruments can take the form of grants, tax exemptions, low-interest loans, or preferential public procurement policies that priorities sustainable products.

When carefully designed, incentives reduce investment risks for businesses developing or scaling alternatives, including compostable materials, reusable packaging, or refill systems. They can also support local industries that produce natural-fiber or paper-based packaging. The effectiveness of these measures depends on aligning financial support with broader waste management objectives – ensuring that promoted materials are technically and environmentally sound within existing infrastructure.

Poorly designed incentives risk creating unintended consequences, such as encouraging bio-based or biodegradable plastics that cannot be properly processed in available facilities. Governments should therefore base subsidies on lifecycle assessments and ensure that waste systems can accommodate the materials promoted. Integrating sustainability criteria into eligibility conditions helps prevent market distortions and ensures that public funds drive genuine environmental gains. Complementary measures, such as standards for composability and mandatory labelling of certified materials, can strengthen policy coherence and accountability.

Disposal Instruments (Gate Fees and Landfill Bans)

Disposal instruments address the end-of-life phase of waste management by discouraging landfilling and encouraging higher-value recovery options. Gate fees (charges applied per ton of waste deposited at landfills) create an economic disincentive for disposal and encourage recycling or energy recovery. Landfill bans take a stronger approach by prohibiting the landfilling of certain waste types, such as untreated or combustible plastics, compelling waste generators to adopt alternative treatment methods.

While both instruments reduce landfill dependency, their success depends heavily on the availability of suitable alternatives. Implementing gate fees requires transparent pricing, monitoring of landfill operations, and reinvestment of revenues into recycling infrastructure. Landfill bans, meanwhile, demand a mature waste management system capable of absorbing redirected waste streams. Without adequate infrastructure, bans can lead to illegal dumping or open burning, exacerbating environmental harm.

A balanced combination of gate fees and gradual landfill restrictions can yield strong results. By progressively increasing disposal costs and simultaneously investing in recycling and waste-to-energy capacity, governments can shift waste flows away from landfills without causing disruptive shocks. Comprehensive stakeholder consultation, enforcement planning, and communication campaigns are necessary to maintain public support and ensure compliance.

Deposit-Refund Systems (DRS) for Single-Use Packaging

DRS are economic instruments designed to increase the return rate of targeted packaging by attaching a small refundable deposit to the purchase price. Consumers are incentivized to return the item for recycling in exchange for the refund, significantly increasing collection and recycling rates. Single-use DRS models typically apply to beverage containers but can extend to other SUPs such as cups or trays.

An effective DRS requires a legal framework defining the obligated producers, types of packaging included, and mechanisms for deposit collection and reimbursement. Operational success depends on accessible return infrastructure, transparent clearing mechanisms, and robust monitoring to prevent fraud. Systems must also establish equitable financial arrangements among producers, retailers, and waste operators to ensure cost recovery and fairness.

Although DRS schemes have proven to deliver high recovery rates, they are complex and costly to implement at scale. Policymakers should conduct feasibility studies to assess market readiness, consumer behavior, and logistical challenges before adoption. Integration with existing EPR systems can improve efficiency by streamlining collection networks and avoiding duplication. When properly executed, DRS can form an essential component of national circular economy strategies, promoting material recovery and fostering a culture of return and reuse.

Deposit-Refund Systems (DRS) for Multiple-Use Packaging

Multi-use DRS systems extend the same economic principle to reusable packaging, offering a mechanism for scaling reuse models. A deposit is charged at the point of sale and refunded upon return of the container for cleaning and reuse. These systems establish the infrastructure needed for closed-loop packaging circulation, reducing demand for new SUPs and fostering circular business models.

Implementing a multi-use DRS requires investment in cleaning facilities, logistics networks, and data tracking technologies. The complexity of operations increases with the diversity of products and participating brands, demanding close coordination across the supply chain. Digital traceability tools can facilitate transparency, ensuring accurate deposit clearing and accountability.

Policymakers must also consider consumer convenience, as the success of such systems depends on widespread participation. Strategic placement of return points, clear communication on deposit values, and integration with other collection systems enhance user engagement. When combined with supportive regulations like reuse targets or SUP bans, multi-use DRS programs can drive substantial reductions in plastic waste and establish the foundation for a regional reuse economy.

Reuse and Refill Systems

Reuse and refill systems represent a cornerstone of circular economy transitions, offering alternatives that drastically reduce reliance on disposable packaging. These systems enable consumers and businesses to switch from linear, single-use models to circular, multiple-use arrangements. They encompass a range of operational models, such as refill at home, refill on

the go, return from home, and return on the go, each suited to different market and infrastructure contexts.

Designing effective reuse and refill policies requires coordination across supply chains and between public and private actors. Governments can mandate reusable packaging quotas or require businesses to provide refill options alongside single-use products. Complementary fiscal incentives and awareness campaigns can accelerate consumer adoption and industry investment.

However, successful implementation depends on enabling infrastructure such as collection logistics, cleaning facilities, and tracking systems. Reuse and refill systems also require cultural adaptation, with consumers and businesses adjusting to new routines. Pairing reuse policies with bans on equivalent SUP items ensures that circular systems achieve scale rather than remain niche solutions. Over time, such systems can reshape production and consumption patterns, contributing significantly to waste reduction, job creation, and resource efficiency.

6.3 Annex 3 – Mapping of Implemented Policy Options across ASEAN

N.b.: The content below is valid as of July 2025.

Across AMS, commitment to addressing SUP pollution has strengthened over the past decade. Most have adopted national or sectoral action plans, complemented by legal and fiscal measures targeting SUP reduction. These frameworks reflect a shared recognition of the environmental and economic costs of SUPs and their alignment with ASEAN's regional commitments under the Regional Action Plan on Combating Marine Debris (2021–2025).

While ambition is high, many frameworks remain at an early stage of implementation. Policies are often fragmented, and enforcement capacity varies widely. This annex summarizes the current regional landscape, outlining the main regulatory, fiscal, and voluntary approaches shaping SUP management. Detailed country-level information is presented in the accompanying table below.

Existing policies & gaps

	Brunei Darussalam	Cambodia	Indonesia	Lao PDR	Malaysia	Myanmar	Philip-pines	Singapore	Thailand	Viet Nam
Bans including partial bans	☑	☑	☑		☑	☑	☑	☑	☑	☑
Disincentives (taxes, fees, penalties)	☑	☑			☑		☑	☑		☑
Design standards (voluntary)								☑		
Labelling (*voluntary*)			☑		☑		☑	☑	☑	☑
EPR Schemes	☑	☑	☑		☑	☑	☑	☑	☑	☑
Incentives/subsidies for alternatives		☑							☑	
Disposal (gate fee, landfill ban)								☑		
DRS (single use)								☑		
DRS (multi use)	No government policies found									
Reuse and refill systems	Only voluntary NGO/private sector initiatives, no government policies									

Direct Indirect ☑ In Place ☑ Planned

At the national level, bans or restrictions on plastic carrier bags remain the most commonly applied direct policy measure across AMS. Nine of the ten AMS have implemented either full or partial bans on one or more SUP items, though only six have adopted these measures in the form of legally binding national laws or regulations. The majority of these focus on a narrow range of products – primarily lightweight plastic bags – while broader categories such as food containers, cutlery, or multilayered packaging often remain unregulated. In several countries, legal provisions define minimum thickness standards or prohibit the free distribution of bags at points of sale. while other AMS rely more on voluntary agreements or campaigns, which collaborate with retail and industry stakeholders to encourage behavioral change without legislative enforcement.

Moreover, four of the AMS have adopted partial or targeted restrictions that apply only in specific geographic areas or sectors. Examples include bans in environmentally sensitive areas such as beaches and national parks, or within public sector institutions like government offices.

Bans and partial bans targeting specific SUPs in AMS

	Brunei Darussalam	Cambodia	Indonesia	Lao PDR	Malaysia	Myanmar	Philip-pines	Singapore	Thailand	Viet Nam
Plastic carrier bags	2011	2017	various*		2009*	2011*	various*	2016**	2020	2026***
EPS/Styrofoam food containers			2019*		2017*		various*	2016**	2022**	2031***
Plastic takeaway food containers		2023**						2016**	2022**	2031***
Plastic straws		2023**	2019*		2019*		various*	2016**	2022**	2031***
Plastic cutlery, stirrers		2023**	2019*				various*	2016**	2022**	2031***
Plastic plates. cups & bowls		2023**					various*	2016**	2022**	2031***
Plastic beverage bottles and caps	2018**	2023**						2016**		
Food wrappers(candy, chips etc)										
Plastic cotton bud sticks										
Single serve multi-layer plastic/ sachet										

Legally binding legislation in place | Non-legally binding policy in place | No policy in place

*Subnational **Specific regions or sectors ***Legally binding policy to be implemented by a target year

In addition to bans, six of the AMS apply disincentive measures, such as import or customs taxes, to discourage the use of selected SUPs, most commonly plastic carrier bags. These fiscal tools aim to increase the cost of environmentally harmful products and promote the uptake of alternatives, although enforcement remains limited and exemptions are frequently granted, limiting overall effectiveness. Design-related instruments, such as standards for recyclability, reduced material usage, or sustainable composition, have emerged in a handful of countries. However, most of these remain voluntary in nature and are often driven by multinational corporations operating in the fast-moving consumer goods sector. Singapore is currently the only AMS with a formal set of national guidelines for packaging design, though these too are non-binding.

Subnational policies play an increasingly important role in the region. Approximately four of the AMS have independent provincial, municipal, or city-level regulations that go beyond national measures. These involve stricter bans in specific locations such as protected areas, markets, or coastal zones. These localized regulations often provide more detailed insights into specific policy requirements, successes, and challenges, which can then serve as catalysts for the development of future national policies. However, the presence of subnational action in the absence of cohesive national direction may also lead to fragmented and inconsistent application of policy principles, which can result in confusion for the public and difficulties with compliance and enforcement. As a result, overarching national guidance/roadmaps are recommended to establish national targets and priorities.

On the side of indirect measures, EPR frameworks have emerged as a key focus. Three of the AMS have formally adopted EPR legislation covering plastic packaging, while another five are in preparatory or pilot stages. Yet, implementation across the region remains uneven, also because EPR schemes are setup vary differently across AMS. DRS are rare, with only one AMS having committed to implement a national DRS scheme for single use beverage containers. Multi-use DRS schemes or incentives for reusable packaging are largely absent, reflecting broader constraints in infrastructure and logistics. Reuse and refill models – such as bulk dispensers or standardized returnable containers – have begun to emerge in a few urban centers, mostly through pilot programs or private sector-led initiatives. However, policy support for such systems remains limited, and there are few incentives for scale-up. Meanwhile labelling initiatives are present in 60% of AMS, they remain voluntary and have shown minimal measurable impact.

Notably, landfill bans are entirely absent across the AMS, and gate fees for waste disposal are relatively low**,** averaging around USD 10 per tonne, except Singapore with significantly higher gate fees ranging from USD 70 to 100 per tonne. This disparity is primarily due to Singapore's greater economic development but severe land scarcity and high population density, which has

forced the country to invest heavily in advanced waste-to-energy incineration facilities as a primary waste management strategy, a far more costly alternative than landfilling. This, in turn, drives up gate fees to reflect the true cost of disposal and to incentivize waste reduction and recycling. Other ASEAN countries, by contrast, have historically had more available land for landfills and have not faced the same urgent need to invest in such high-cost infrastructure.

For the rest of the ASEAN region, low gate fees are a symptom of a broader waste management system that relies on alternative, less formal methods. Widespread reliance on the informal waste sector for sorting and recycling reduces the volume of waste reaching landfills, while the prevalence of illegal dumping and burning further decreases the demand for formal disposal services. These factors combine to suppress gate fees, as there is less market pressure to improve landfill standards or invest in formal, more expensive waste management infrastructure.

6.4 Annex 4: Case Studies

Introduction

In order to ensure that the recommendations of SUP policy development and implementation are not just theoretical and are applicable in real life, two select case studies have been included in the guidebook for each policy option, i.e., 20 case studies altogether.

Case studies focus on illustrating the processes through which these policies were formulated, implemented, and enforced, thereby offering insights into the administrative and financial requisites necessary for successful policy adoption. The analysis leverages available documentation to provide as comprehensive an understanding as possible, despite gaps in publicly accessible data. The case studies are structured into four pages:

1. Background and overview of policy
2. How the policy was developed and main stakeholders involved
3. Key impacts of the policy and insights gathered
4. A filled in “Checklist for Implementation” for the policy

The key criterion for selecting case studies was that each policy must have been under implementation for at least two years, ensuring that sufficient experience was available to support meaningful evaluation. Exceptions were made only where no mature examples existed within a given policy category. Where multiple options were available, priority was given to those cases with the most extensive documentation and reporting to enable detailed analysis. Case studies from the AMS were also prioritized, but where suitable policies were not available international case studies were used, focusing on countries with similar socio-economic contexts e.g., LMICs like Bangladesh or countries close to the region e.g., Japan and South Korea who are often viewed by ASEAN policymakers as benchmarks for advanced waste management.

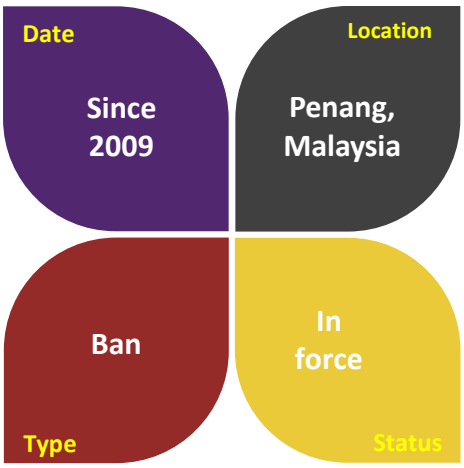
Based on the insights from the case studies, ASEAN policymakers can adapt and apply recommendations for developing policies within their respective countries. It also provides an example of how the template “Checklist for Implementation” provided in the guidebook can be utilized, and clearly shows gaps in data that should be accounted for in future policies.

OVERVIEW OF CASE STUDIES

	Country	Scope	Status	Enforcement	SUPs targeted	Link
Bans including partial bans	MY	Subnational	In force	Mandatory		
	ID	Subnational	In force	Mandatory	  	
Disincentives (taxes, fees, penalties)	VN	National	In force	Mandatory		
	BN	National	In force	Mandatory	  	
Design Standards	Global	Private Sector	In force	Voluntary	*All packaging*	
	EU	Regional	In force	Mandatory		
Incentives/subsidies for alternatives	BD	National	In force	Mandatory		
	KR	National	In force	Mandatory	*Range of products*	
Reuse and refill systems	SG	Private Sector	Ceased	Voluntary	 	
	FR	National	In force	Mandatory	 	
Labelling	TH	National	In force	Voluntary	*Range of products*	
	MY	Private Sector	In force	Voluntary	*All packaging*	
EPR Schemes	PH	National	In force	Mandatory	*All packaging*	
	VN	National	In force	Mandatory	*All packaging*	
Disposal (gate fee, landfill ban)	SG	National	In force	Mandatory	*All waste*	
	KR	National	In force	Mandatory	*All waste*	
DRS (single use)	KR	Subnational	In force	Voluntary		
	EE	National	In force	Mandatory		
DRS (multi use)	JP	Private Sector	In force	Voluntary	 	
	SE	Private Sector	In place	Voluntary		



From **charging for plastic bags** to a **full ban** in **15 years**

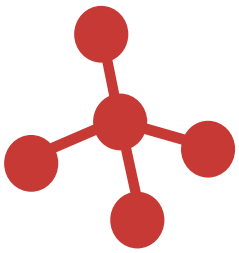


BACKGROUND & RATIONALE

Drivers behind the policy: Reduced pollution and waste management costs, increased environmental protection and public awareness. Alignment with SDG goals 11, 12, 13 and 17.

Problem the policy aims to address: Rampant use of single use plastic carrier bags that end up either in waste management stream or polluted as litter and eventually leaking into the environment.

Policy Overview



Targeted sectors:

Single-use plastic carrier bags at checkout counters.



Who it applies to:

Retailers including Hypermarkets | Supermarkets | Department stores | Convenience stores | Fast food restaurants | Petrol station convenience stores | Chain stores | Pharmacies | Clinics.



Key provisions:

Obliged businesses are listed, with others to be added in the near future.

Originally a six-month educational enforcement (grace) period, from 1st March to 31st August 2025 where fines were not yet issued. Now extended to 31st August 2026.

How it happened

2009

"No *Free* Plastic Bag" day

First state in Malaysia.

Every Monday, a RM 0.20 (USD 0.05) **mandatory charge** was imposed on plastic bags sales from all retailers and commercial establishments except wet markets and hawker stalls.

2010

Expanded to 3 days, and then every day

Mandatory charges expanded to 3 days a week in 2010, then **every day**, starting from 2011.

2019-2021

Full ban 3 days a week

Price hike USD0.25

In 2019, with good response, a ban was issued for plastic bags every Monday. Mandatory prices were increased to RM 1 (USD 0.25) in 2020, and in 2021 the ban was increased to 3 days a week.

2025

Full ban at all times

Given the good response, Penang State Government amended to expand the ban to all days, albeit still exempting hawkers and wet markets.

Enforcement tools and monitoring mechanisms:

- Before the ban, retailers were required to submit an inventory form every year (i.e., stock and sales of plastic bags).
- Frequent inspections from local councils are carried out.
- There are no explicit consequences for lack of compliance, but fines and a potential revoking of the business license were both quoted as possibilities.

Implementation challenges:

It is difficult for local councils to have enough man-power for strict enforcement of policy across all targeted businesses. While previously success of policy could be monitored by charges collected, more detailed waste audits etc., may be needed in future to assess success of policy in reducing SUP bag waste.

Outreach and awareness efforts:

Awareness and dissemination campaigns from PGC including distribution of over 100,000 free reusable shopping bags across various public venues after the policy was announced in February 2025 with 1 year of educational and awareness period. Under PGC, a NSUP (No Single-Use Plastic) campaign was designed to conduct different CEPA program including clear and descriptive posters for public awareness used in press releases, social and mass media engagement and targeted outreach to businesses most affected by the policy, e.g., large supermarkets to provide detailed guidance.

Penang Green Council (PGC)

Dedicated state agency for Penang's environmental efforts. Leads Implementation of campaign via overseeingcoordination between stakeholders, conducting public engagement and education, research and data collection and monitoring and reporting.

Local Councils (Majlis Bandaraya Pulau Pinang & Majlis Bandaraya Seberang Perai)

Front-line enforcers of the state's environmental policies at the municipal level. Crucial for implementing regulations via local bylaws and regulations and engaging with local businesses and communities to enforce the policy via warnings and penalties.

Penang State Government

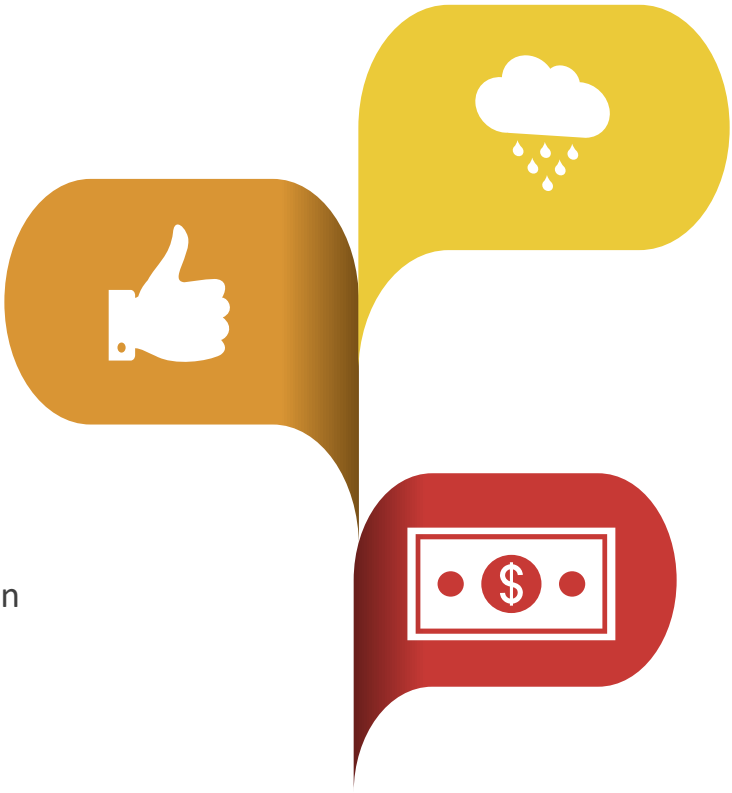
Overarching authority that formulates, approves, and drives the state's environmental policies. Sets policy direction, targets, funding and oversees implementation.

Results, key impacts and learnings

Social Impact

Surveys conducted by PGC before and after amendments to the policy indicate strong support by the public for SUP reduction initiatives and separately – recycling behavior.

64.3% of respondents in 2023 survey suggested that the campaign had reduced their SUP bag consumption.



Environmental Impact

Increase in cost of plastic bags in 2021 was noted as having a large impact, resulting in ~78% decrease in plastic bag purchases when comparing funds collected in 2022 to 2021.

Economic Impact

Funds from early charges collected in the state level welfare fund amounted to RM 8 million (USD 1.9 million) from 2009-2024.

Key enablers of success:

- Escalating policy in phases.
- Stakeholder engagement before, during and after e.g., via public surveys.
- Using well designed dissemination material and outreach products.
- Clear provision of sustainable alternatives.
- Commitment from local councils for enforcement.

Insights for other AMS:

- A phased approach could be beneficial but at an accelerated timeline e.g., within 1-3 years for full ban.
- Allocation of sufficient resources for public outreach, dissemination and enforcement is critical.
- Development of quantitative and qualitative data collection mechanisms is required for impact assessment.

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https://www.pgc.com.my/2020/wp-content/uploads/2023/05/Survey-on-Public-Perception-Towards-Plastic-Waste-Recycling-in-Penang.pdf

Checklist for Implementation

Organizational | Financial | Impact

Criteria	Indicator	Actions
Legal basis	• Law/regulation/decree	☑ State bylaw "No plastic bag policy" under "Local Government Act 1976"
Implementation plan	• Policy guidelines including scope, timeline, obligated parties, exemptions, etc.	☑ Escalated from a charge to a ban for retailers in listed obliged businesses
Roles & responsibilities	• List of organizations for implementation, enforcement, monitoring, engagement, etc.	☑ Penang State Government, MBPP, MBSP, PGC, etc.
Target setting	• Reduction in tons/% of SUP put on market, imported, waste, etc.	☐ No particular target was set for plastic usage or waste reduction
Capacity & staffing	• No. of monthly FTE hours for each role/expertise	☐ No publicly available data found
Enforcement & compliance	• No. of monthly inspections • No. of penalties issued	☐ No publicly available data found ☐ No publicly available data found
Stakeholder engagement	• No. of relevant stakeholders consulted	☑ Engagement sessions with NGOs, businesses, schools, associations, etc.
Up-front 'CAPEX'	• Amount in local currency	☐ No publicly available data found
Long-term 'OPEX'	• Amount in local currency	☐ No publicly available data found
Funding & revenue	• Amount in local currency	☐ State funding (amount not disclosed)
Environmental impact	• Reduction in tons/% of SUP put on market, imported, waste, etc.	☑ Estimated 78% reduction of carrier bag usage based on fees charged to consumers from 2021-2022
Social impact	• Behavioral changes • Public health & safety • Livelihood of vulnerable groups e.g., IWWs, low income communities	☑ Various surveys on phasing out SUPs and public perception towards plastic waste and recycling indicate increased recycling awareness and behavior ☐ ☐
Economic impact	• Cost of finished goods • Industry revenue • End of life recycling value	☐ ☑ RM 8 million collected & disseminated from 2009-2024 from charges ☐

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A **full ban** on **plastic carrier bags, straws and polystyrene**

Date
Since 2019

Location
Bali, Indonesia

Type
Ban

Status
In force

BACKGROUND & RATIONALE

Drivers behind the policy: Bali's economic dependency on tourism and visitors being increasingly concerned about environmental degradation, with competitive options available in the rest of South-East Asia.

Problem the policy aims to address: The detrimental effects of plastic pollution on the island's natural beauty and ecological integrity, as well as waste management challenges.

Policy Overview

Targeted sectors:

Manufacturing, distribution and retail where SUPs are used for packaging purposes.

Who it applies to:

All business actors within the targeted sectors.

Key provisions:

Six-month educational enforcement (grace) period, from January 2019 to July 2019.

How it happened

Dec 2018

- Policy was announced
- 6-month grace period

Regulation of the Governor of Bali Province Number 97 of 2018 concerning Restrictions on the Generation of Single-Use Plastic Waste.

Mar 2019

- Policy faced judicial lawsuit

Judicial review lawsuit filed by business actors led by the Indonesian Plastic Recycling Association.

July 2019

- Supreme court ruled in favor of Bali Province
- Enactment of policy

Policy was enacted as Indonesian Supreme Court ruled that the local government have the authority to implement the policy to address its waste crisis.

Dec 2020

- Monitoring and evaluation study

Study carried out by supporting organizations where data was gathered using surveys, face-to-face interviews and focus group discussions.

Enforcement tools and monitoring mechanisms:

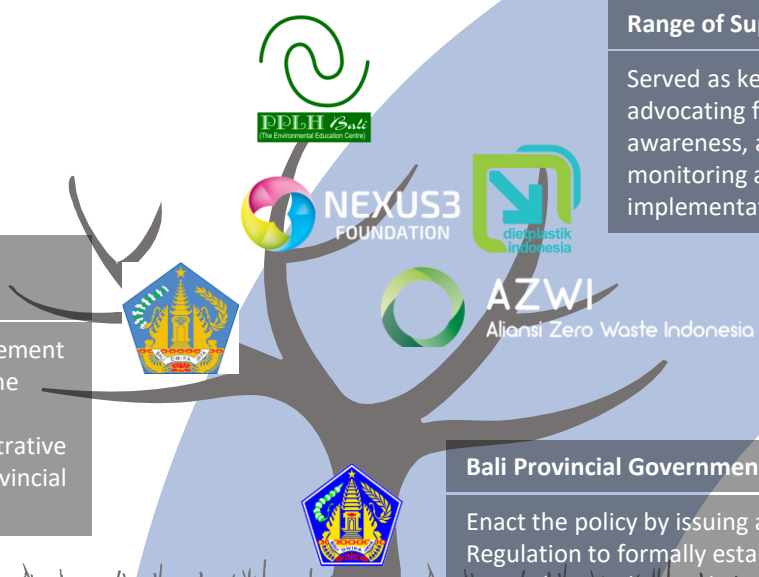
- Dinas Kehutanan dan Lingkungan Hidup Provinsi (DKLH) Bali actively involved government officials, business actors, and community representatives in discussions related to the implementation of the single-use plastic ban.
- City councils tasked with enforcing the ban, with potential for businesses to lose their licenses.
- Monitoring and evaluation study carried out by supporting organizations from Nov-Dec 2020.

Implementation challenges:

Monitoring and enforcement challenges are observed especially for smaller businesses i.e., traditional markets, tuck shops - “warungs”, roadside stalls, etc. A lack of alternatives for these business models for quick and easy sales leads to low compliance. Long term data gathering mechanisms are also lacking, which make it difficult to assess the lasting success of the policy.

Outreach and awareness efforts:

City councils educated public with support from agencies/organizations including Bali Province, Forestry and Environmental Service, Zero Waste Alliance, Plastic Bag Diet Movement, Pusat Pendidikan Lingkungan Hidup (PPLH Bali), Nexus3 Foundation.



Range of Supporting Agencies

Served as key civil society partners by advocating for the policy, raising public awareness, and providing independent monitoring and research to support its implementation and success.

Bali Provincial, Forestry and Environmental Service

Primary implementing and enforcement body responsible for overseeing the policy's action plans, monitoring compliance, and applying administrative sanctions on behalf of the Bali Provincial Government.

Bali Provincial Government

Enact the policy by issuing a Gubernatorial Regulation to formally establish the restrictions on single-use plastics throughout the province.

Results, key impacts and learnings

Social Impact

After initial policy announcement, a judicial review lawsuit was filed by business owners, which indicated dissatisfaction. Following implementation, compliance from business owners was reported anecdotally to still be low.



Environmental Impact

Survey across 1605 heads of families across 716 villages/subdistricts (95% confidence level) showed significant reduction in household consumption of plastic bags (57%), straws (70%) and polystyrene (81%).

Economic Impact

Plastic bag traders in Denpasar market reported decline in turnover of 20-30% since the regulation was enacted.

Key enablers of success:

- Comprehensive stakeholder engagement prior to implementation of the policy.
- Assistance of multiple supporting organizations for monitoring and awareness building.
- Strict enforcement and store-wide policies implemented by large, modern retailers.

Insights for other AMS:

- Supporting agencies and organizations like NGOs may ease the transition and enable wider adoption of policy.
- Development of long-term quantitative and qualitative data collection mechanisms is required for lasting impact assessment.
- Clear alternatives are needed for small, fast paced businesses to transition.

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Checklist for Implementation

Organizational | Financial | Impact

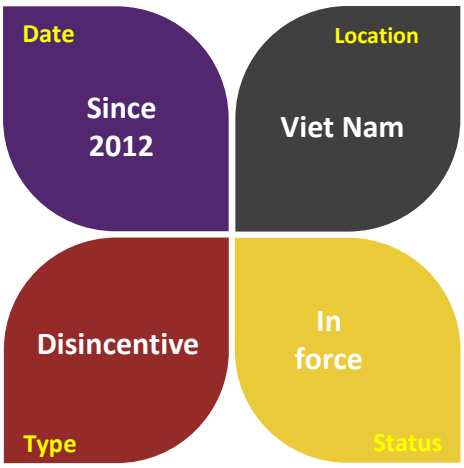
Criteria	Indicator	Actions
Legal basis	• Law/regulation/decree	☑ Provincial bylaw on Restrictions on the Generation of Single-Use Plastic Waste"
Implementation plan	• Policy guidelines including scope, timeline, obligated parties, exemptions, etc.	☑ Six-month transition period, collaboration to spread awareness. Plans to strengthen enforcement, expand scope
Roles & responsibilities	• List of organizations for implementation, enforcement, monitoring, engagement, etc.	☑ Bali Provincial Government, Forestry and Environmental Service, Zero Waste Alliance, Plastic Bag Diet Movement, PPLH Bali, Nexus3 Foundation, etc.
Target setting	• Reduction in tons/% of SUP put on market, imported, waste, etc.	☐ No particular target was set for plastic usage or waste reduction
Capacity & staffing	• No. of monthly FTE hours for each role/expertise	☐ No publicly available data found
Enforcement & compliance	• No. of monthly inspections • No. of penalties issued	☐ City councils tasked with enforcing the ban, with businesses potential losing their licenses but no data found on numbers
Stakeholder engagement	• No. of relevant stakeholders consulted	☑ Active involvement of government officials, business actors, and community representatives
Up-front 'CAPEX'	• Amount in local currency	☐ No publicly available data found
Long-term 'OPEX'	• Amount in local currency	☐ No publicly available data found
Funding & revenue	• Amount in local currency	☐ No publicly available data found
Environmental impact	• Reduction in tons/% of SUP put on market, imported, waste, etc.	☑ 95% confidence level survey showed significant reduction in household consumption of plastic bags (57%), straws (70%) and polystyrene (81%).
Social impact	• Behavioral changes • Public health & safety • Livelihood of vulnerable groups e.g., IWWs, low income communities	☑ ☐ ☐ Still lacking behavior change/compliance from many business owners following failed attempt at judicial review lawsuit filed to oppose policy
Economic impact	• Cost of finished goods • Industry revenue • End of life recycling value	☐ ☑ ☐ Plastic bag traders in Denpasar market reported decline in turnover of 20-30% since the regulation was enacted

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An environmental protection tax on plastic carrier bags

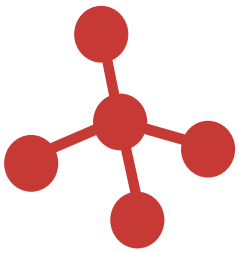


BACKGROUND & RATIONALE

Drivers behind the policy: The need to generate revenue to fund environmental management, particularly through the application of the "polluter pays" principle.

Problem the policy aims to address: The country's economic growth and industrialization leading to increased consumption and pollution of SUPs.

Policy Overview



Targeted sectors:

Wide range of applicable sectors including food, cosmetics, pharmaceutical, etc. that use plastic bags.



Who it applies to:

Manufacturers and importers of “soft taxable plastic bags”.



Key provisions:

1-year+ grace period, from Nov 2010 to Jan 2012 for stakeholders to adapt

Exemptions for pre-packaged goods and plastic bags that meet the environmental friendliness criteria of the Ministry of National Resources and Environment.

How it happened

Nov 2010

Law on Environmental Protection Tax No. 57/2010/QH12.

Jan 2012

Policy is announced

1-year+ grace period

Policy was passed by the National Assembly of Viet Nam with tax rate for plastic bags starting at VND 30,000 (USD 1.1) per unit.

Jan 2018

Policy comes into effect

Tax rate was increased to VND 40,000 (USD 1.5) per unit.

Jan 2019

Increases in tax rate

Tax rate was increased to VND 50,000 (USD 1.9) per unit.

Jan 2022

Start of integration with EPR

Law on Environmental Protection (2020) took effect, introducing EPR which also applies to plastic bags.

Enforcement tools and monitoring mechanisms:

Monitored and enforced via existing tax administration system and audits. Producers and importers are required to **self-declare** the quantity of taxable goods (in this case, plastic bags) they have produced or imported and pay the corresponding tax. The tax authorities, under the Ministry of Finance, conduct **tax examinations and inspections** on these businesses to verify the accuracy of their declarations, accounting records, and payment.

Implementation challenges:

Studies and reports showed that despite the tax, there was a 250% increase in plastic bag imports from 2014-2017. Meanwhile there was a 23% drop in the tonnage of "taxable" soft plastic bags. This indicates that importers have found loopholes in the definition of "environmental friendliness criteria" for plastic bags stated in the exemption, thus avoiding the tax entirely.

Outreach and awareness efforts:

Some national outreach efforts were conducted including public campaigns, media and communication and targeted outreach to businesses and consumers. This has only accelerated in conjunction with the Law on Environmental Protection which requires awareness building for EPR implementation.

Provincial and local governments

Individual Departments of Natural Resources and Environment (DONRE) and local People's Committees responsible for implementing and enforcing the national laws at the provincial, district, and communal levels. They conduct local inspections and manage awareness campaigns.

Ministry of Finance

Responsible for the fiscal aspects of the policy. Formulates and manages the tax rates, oversees tax collection, and administers the state budget where the tax revenue is directed. The General Department of Taxation, under the MOF, is in charge of tax collection and audits.

Ministry of Natural Resources and Environment (MONRE)

Primary ministry responsible for drafting, implementing and enforcing the environmental tax. MONRE provides the technical and scientific basis for the EPT and coordinates with the Ministry of Finance to set and monitor the tax rate for different products.

Viet Nam national government

National Assembly of Viet Nam passes the Law on Environmental Protection Tax, including any subsequent revisions and provides detailed guidance via decrees and resolutions.

Results, key impacts and learnings

Social Impact

No significant social impact was observed.



Environmental Impact

No environmental impact observed due to low tax rate and loopholes in regulation - Plastic bag consumption and pollution has continued to increase since 2012 e.g., 250% increase in imports from 2014-2017.

Economic Impact

Lower economic impact than expected - in 2016 Viet Nam imported 65.6 million USD worth of plastic bags, but only USD 0.84 million of taxes was collected.

Key enablers of success:

- Clear delineation of roles and responsibilities to different ministries, local-level agencies, etc.
- Tax rate that can be increased as necessary if a lack of impact is observed.
- Mechanism that is easy to implement and enforce with existing capacity.

Insights for other AMS:

- Disincentives should be significant enough to act as a deterrent.
- Any exemptions should have strict, prescriptive requirements to avoid companies finding loopholes.
- Disincentives likely need to be escalated and lead to bans/partial bans with suitable alternatives to have significant environmental impact.

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Checklist for Implementation

Organizational | Financial | Impact

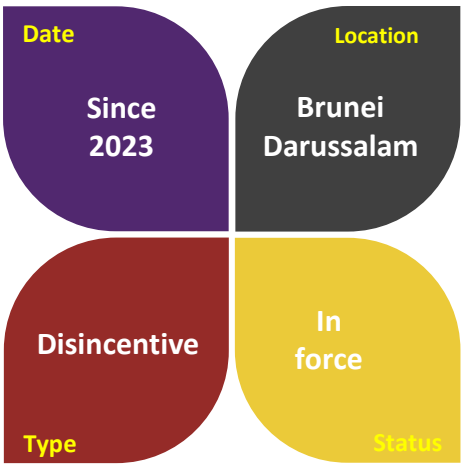
Criteria	Indicator	Actions
Legal basis	• Law/regulation/decree	☑ Federal Law on Environmental Protection Tax No. 57/2010/QH12
Implementation plan	• Policy guidelines including scope, timeline, obligated parties, exemptions, etc.	☑ Production and import tax on various goods harmful to the environment including plastic bags. Grace period of 2 years. List of products and tax rate may be adjusted every 2-3 years
Roles & responsibilities	• List of organizations for implementation, enforcement, monitoring, engagement, etc.	☑ Viet Nam National Government, Ministry of Natural Resources and Environment (MONRE), Ministry of Finance, Provincial & local level governments
Target setting	• Reduction in tons/% of SUP put on market, imported, waste, etc.	☐ No particular target was set for plastic import reduction
Capacity & staffing	• No. of monthly FTE hours for each role/expertise	☐ No publicly available data found
Enforcement & compliance	• No. of monthly inspections • No. of penalties issued	☐ No publicly available data found ☐ No publicly available data found
Stakeholder engagement	• No. of relevant stakeholders consulted	☑ Consultations with relevant ministries, industry representatives, environmental organizations, and the public
Up-front 'CAPEX'	• Amount in local currency	☐ Not applicable
Long-term 'OPEX'	• Amount in local currency	☐ Not applicable
Funding & revenue	• Amount in local currency	☐ Not applicable
Environmental impact	• Reduction in tons/% of SUP put on market, imported, waste, etc.	☐ Minimal direct environmental impact - Plastic bag consumption and pollution continued to increase since 2012 despite tax, e.g., 250% increase in imports from 2014-2017.
Social impact	• Behavioral changes • Public health & safety • Livelihood of vulnerable groups e.g., IWWs, low income communities	☐ No publicly available data found ☐ ☐
Economic impact	• Cost of finished goods • Industry revenue • End of life recycling value	☐ ☐ ☐ Lower economic impact than expected - in 2016 Viet Nam imported 65.6 million USD worth of plastic bags, but only 0.84 million USD of taxes was collected.

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An increased **import/excise tax** on **plastic**

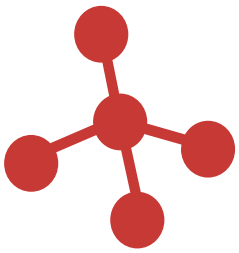


BACKGROUND & RATIONALE

Drivers behind the policy: To reduce the amount of plastic waste to be disposed of and curtail environmental pollution.

Problem the policy aims to address: Waste management issues driven by high per capita waste generation and a primary landfill projected to reach full capacity by 2025–2030, necessitating urgent fiscal measures to divert non-biodegradable plastic from the waste stream.

Policy Overview



Targeted sectors:

Plastic in its primary forms, plastic bags and plastic food containers.



Who it applies to:

Importers.



Key provisions:

Shift from % of declared value-based tax calculation to weight-based calculation.

How it happened

2017

Introduction of excise tax

Implementation of a 3% value-based excise duty on plastic products to support early waste reduction efforts.

May 2023

Amendment to increase excise tax

The Ministry of Finance and Economy announced major amendments to the Customs Import and Excise Duties, increasing tax rate from 3% of declared value to a specific rate of BND 5 (~USD 3.9) per kilogram.

July 2023

Suspension of increased excise tax

Significant pushback from local businesses and manufacturers result in a temporary suspension. New interim rate is announced - 5% of the declared trade value.

Aug 2023

Refunding of difference paid from May-July

Royal Customs and Excise Department begins refunding the difference to businesses that paid the BND 5 (~ USD 3.9) per kilogram rate during the two-month implementation.

Enforcement tools and monitoring mechanisms:

- Tax monitored and enforced easily via the Brunei Darussalam National Single Window (BDNSW), the electronic system by which all importers are required to declare their goods. It automatically applies the relevant tax rate (the 5% interim rate) based on the HS Code of the items.
- Customs officers also conduct physical audits and X-ray screenings at checkpoints (ports, airports, and land borders) to ensure that the weight and type of plastic imported match the digital declarations.

Implementation challenges:

Small and medium enterprises, especially home-based delivery businesses and night market vendors, were hit by an overnight spike in packaging costs. Many were forced to suddenly charge customers extra fees (USD 0.10–0.20 per bag/box), leading to significant public complaints. A lack of affordable eco-friendly alternatives (like compostable containers or paper bags) was not yet robust to meet the sudden surge in demand, leaving businesses with no choice but to pay the tax or pass the cost on.

Outreach and awareness efforts:

While long-term environmental campaigns had normalized the general concept of plastic reduction, this specific fiscal policy suffered from a critical lack of prior consultation, as the drastic BND 5/kg rate was announced only two days before implementation, catching importers and small businesses off-guard.

Dept. of Economic Planning and Statistics (DEPS)

Monitor retail price changes to prevent businesses from overcharging consumers under the guise of the new tax.

Royal Customs and Excise Department (RCED)

Responsible for enforcing the tax at borders using the BDNSW digital system and managing the refund process for businesses.

Ministry of Finance and Economy

Responsible for designing the tax structure, and therefore managing the 2023 amendments, and issuing the temporary suspension and interim rates.

كمنترين كواغن دان ايكونومي
MINISTRY OF FINANCE AND ECONOMY
BRUNEI DARUSSALAM

Results, key impacts and learnings

Social Impact

Policy caused a "price shock" for the general public, as the cost of takeaway food and household essentials spiked overnight.



Environmental Impact

No environmental impact observed due to quick suspension of policy, with final increase from 3%-5% of declared value not being significant enough to deter import of plastic products.

Economic Impact

Initial BND 5/kg rate placed an unsustainable financial burden on local MSMEs, leading to a liquidity crisis that necessitated a government policy reversal and retroactive amendment.

Key enablers of success:

While the policy was ambitious, unfortunately limited success was observed due to the necessitated remit for economic and social reasons. Nevertheless, the policy still provides valuable insights for how future plastic policies may be developed in the region.

Insights for other AMS:

- Stakeholder engagement and awareness building is key for ensuring lasting success of policies.
- The economic impact of disincentives likely needs to modelled prior to implementation to prevent unintended consequences to local businesses.
- Disincentives may need to be scaled up and paired with incentives for alternatives to give the local market time to adapt.

Sources

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Checklist for Implementation

Organizational | Financial | Impact

Criteria	Indicator	Actions
Legal basis	• Law/regulation/decree	☑ Federal Customs Import and Excise Duties law
Implementation plan	• Policy guidelines including scope, timeline, obligated parties, exemptions, etc.	☑ Increased excise duty tax i.e., import tax for Plastic's primary forms, plastic bags and disposable food containers from 3% to BND5/kg, effective immediately
Roles & responsibilities	• List of organizations for implementation, enforcement, monitoring, engagement, etc.	☑ Ministry of Finance and Economy; Royal Customs and Excise Department (RCED); Dept. of Economic Planning and Statistics (DEPS)
Target setting	• Reduction in tons/% of SUP put on market, imported, waste, etc.	☐ No particular target was set for plastic import reduction
Capacity & staffing	• No. of monthly FTE hours for each role/expertise	☐ No publicly available data found
Enforcement & compliance	• No. of monthly inspections • No. of penalties issued	☐ Not applicable ☐ Not applicable
Stakeholder engagement	• No. of relevant stakeholders consulted	☐ No prior stakeholder engagement was observed
Up-front 'CAPEX'	• Amount in local currency	☐ Not applicable
Long-term 'OPEX'	• Amount in local currency	☐ Not applicable
Funding & revenue	• Amount in local currency	☑ Funds collected as revenue for the national government to dispense
Environmental impact	• Reduction in tons/% of SUP put on market, imported, waste, etc.	☐ None observed due to quick suspension of policy
Social impact	• Behavioral changes • Public health & safety • Livelihood of vulnerable groups e.g., IWWs, low income communities	☐ ☐ ☑ Policy caused a "price shock" for the general public, as the cost of takeaway food and household essentials spiked overnight
Economic impact	• Cost of finished goods • Industry revenue • End of life recycling value	☑ Severe pushback from industries resulted in quick suspension of policy ☑ after just two month and collected funds remitted ☐

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Voluntary, private sector design standards for packaging

Date
Since 2020

Location
Global

Type
Design Standards

Status
In force

BACKGROUND & RATIONALE

Drivers behind the policy: To accelerate progress toward a circular economy by "designing out" waste and ensuring packaging is compatible with existing recycling infrastructure.

Problem the policy aims to address: Inefficiency of global recycling systems caused by complex packaging designs, e.g., widespread use of non-recyclable multi-layer materials instead of mono-materials, the inclusion of problematic elements like PVC and carbon black that hinder sorting, and the unnecessary consumption of virgin plastic through excessive headspace, etc.

Policy Overview

Target segment:

Brand Owners, Manufacturers.

What it applies to:

All plastic packaging.

Key provisions:

9 Golden Design Rules that streamline the recycling process by standardizing materials, eliminating problematic contaminants, and enhancing packaging efficiency to maximize the value of plastic waste as a secondary resource.

How it happened

Early 2020

Founding of coalition

Under The Consumer Goods Forum (CGF), the "Plastic Waste Coalition of Action" (PWCoA) was formally established, bringing together 40+ global CEOs to drive systemic change in packaging.

Dec 2020

Launch of Rules 1 & 2

First two rules were released, targeting the "lowest hanging fruit": fixing PET bottle clarity and banning the most problematic contaminants like PVC and Styrofoam.

July 2021

Release of full set of Rules

Complete set of nine rules was published, covering complex challenges like flexible pouches, headspace reduction, and B2B logistics.

Oct 2024

Technical Review

The CGF completed a major review of all nine rules. Five minor technical updates are made to ensure the GDRs stay aligned with new laws.

Dec 2025

Implementation Deadline

The "Finish Line" for member companies to have fully implemented the Golden Design Rules across their entire global plastic portfolios.



Enforcement tools and monitoring mechanisms:

- Annual Progress Reporting (April – July): Members are required to submit data every year. This reporting is aligned with the Ellen MacArthur Foundation's (EMF) Global Commitment framework to avoid "double reporting" and ensure data consistency
- The Review Cycle (August – September): Submissions are reviewed by the CGF Secretariat and an International Expert Panel. This panel verifies that the claims made by companies (e.g., "our bottles are now 100% clear PET") meet the technical specifications of the rules.
- Rules are mapped against established technical protocols like RecyClass (Europe) and the Association of Plastic Recyclers (APR) (North America). If a package doesn't pass these technical tests, it cannot be reported as "aligned" with the Golden Rules.



Implementation challenges:

Several systemic and technical hurdles in balancing environmental goals with the practical realities of food safety and global economics. This includes solving problems related to shelf life when it comes to changing multilayer wrappers to monolayer, higher cost of recycled content, regional disparities in infrastructure e.g., for sorting, and lack of capital for MSME manufacturers to invest in new technologies



Outreach and awareness efforts:

- Aggregate Disclosure: The CGF publishes an annual progress report. While individual company data is often kept confidential to encourage honest reporting, the aggregate results are shared publicly to show industry-wide momentum
- Regional Case Study Booklets e.g., in China to provide bilingual guides of how to apply the rules factoring in the local recycling market.
- Fact Packs up to 70 page long which provide technical detail e.g., on adhesives, ink types, and "wash-off" temperatures, while referencing global standards.
- CEO led advocacy campaigns and webinars to share knowledge with smaller companies and MSMEs
- Consumer facing branding and employing labelling systems that mandate clear instructions for disposal i.e., particularly recycling.

Results, key impacts and learnings

Social Impact

As of 2024, top quartile of brand signatories have removed 99% of PVC and EPS from consumer-facing packaging portfolios, which have been linked to public health issues.



Environmental Impact

14 million tons of virgin plastic and 7.8 million tons of CO_2e avoided as of 2024.

Economic Impact

30-50% higher value for clear rPET due to increase in demand from policy.

Key enablers of success:

- Board level commitment from world's largest retailers and manufacturers.
- Harmonization of standards with existing technical bodies across regions.
- Transparent annual reporting.
- Regional implementation hubs including key local partnerships.
- Phased technical guidance including comprehensive “Fact Packs”.

Insights for other AMS:

- High level commitment may be required for successful implementation.
- Technical requirements and guidance can be adapted from existing private sector standards.
- Data collection mechanisms and transparency may be required for monitoring.
- Partnerships with local manufacturers, NGOs, etc. may support implementation.

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Checklist for Implementation

Organizational | Financial | Impact

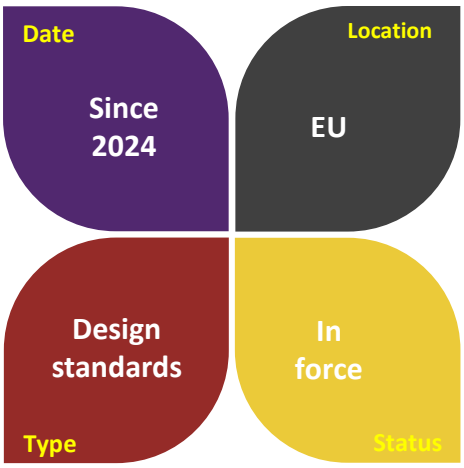
Criteria	Indicator	Actions
Legal basis	• Law/regulation/decree	☐ Not applicable (voluntary, private)
Implementation plan	• Policy guidelines including scope, timeline, eligible parties and products, etc.	☑ Nine specific design standards introduced in 2020, required to be adopted by participating manufacturers and retailers for their plastic packaging portfolios by 2025
Roles & responsibilities	• List of organizations for implementation, enforcement, monitoring, engagement, etc.	☐ Not applicable (voluntary, private)
Target setting	• Reduction in tons/% of SUP waste • Increase in recyclability of packaging / recycling rate	☐ ☑ Member companies to implement these rules in full across their entire packaging portfolios by 2025. Overarching target from many companies - 100% recyclable or compostable packaging
Capacity & staffing	• No. of monthly FTE hours for each role/expertise	☐ No publicly available data found
Enforcement & compliance	• No. of product verifications carried out	☐ Not applicable (voluntary, private)
Stakeholder engagement	• No. of relevant stakeholders consulted	☑ Cross-sector collaboration with over 25 major retailers and manufacturers, who co-developed the rules
Up-front 'CAPEX'	• Amount in local currency	☐ No publicly available data found
Long-term 'OPEX'	• Amount in local currency	☐ No publicly available data found
Funding & revenue	• Amount in local currency	☐ No publicly available data found
Environmental impact	• Reduction in tons/% of SUP waste • Increase in recycling rate	☑ ☐ 14 million tons of virgin plastic and 7.8 million tons of CO_2e avoided as of 2024
Social impact	• Behavioral changes • Public health & safety • Livelihood of vulnerable groups e.g., IWWs, low income communities	☑ ☑ ☐ Multi-country research indicates that the majority of shoppers (78%) actively seek sorting guidance at the point of disposal. Removed 99% of PVC and EPS from consumer-facing packaging portfolios, which have been linked to public health issues.
Economic impact	• Cost difference of more sustainable certified products • End of life recycling value	☐ ☑ 30-50% higher value for clear rPET due to increase in demand from policy

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Regional Design standards in the EU: Tethered Caps

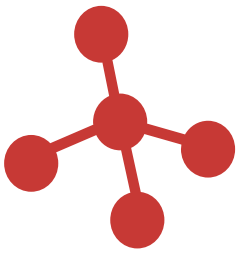


BACKGROUND & RATIONALE

Drivers behind the policy: Tethered caps are a specific design requirement in the EU SUP Directive and were driven by loose plastic bottle caps being among the most commonly found plastic litter items in the environment.

Problem the policy aims to address: It is intended to reduce plastic pollution and improve recycling by ensuring that bottle caps stay attached to the container, so they are collected and processed together, rather than discarded separately into soil, rivers or oceans.

Policy Overview



Targeted sectors:

Beverage packaging sector, especially producers of plastic beverage bottles (water, soft drinks, juices, dairy drinks).



Who it applies to:

Applies to all EU Member States; national governments must transpose it into domestic law.

Producers and importers placing plastic beverage containers with caps or lids on the EU market.



Key provisions:

Plastic beverage bottles of up to 3 liters may only be placed on the market if caps and lids remain attached to the container during intended use.

Adjustments must be made at various points in the manufacturing process (e.g., in the injection process, inspection system, and filling line).

How it happened

2018

Impact assessment

"Impact Assessment: Reducing Marine Litter: action on single use plastics and fishing gear" showed loose plastic bottle caps were among the most commonly found plastic litter items in the environment.

2019

Formal adoption of the Directive

The European Parliament and Council formally adopted the SUPD (Directive 2019/904).

2024

Tethered caps becomes mandatory market requirement

The tethered caps requirement came into force EU-wide: from this date, single-use plastic beverage bottles up to 3 liters must be placed on the market only if the caps remain attached throughout intended use.

2024–25

Industry adaptation and implementation

Producers completed the transition to tethered caps across portfolios, and inspection, production and recycling systems continued adapting to the new design.

Enforcement tools and monitoring mechanisms:

- Article 13 addressed that the Member States shall report yearly to the Commission.
- Member States must provide effective, proportionate and dissuasive sanctions (e.g., fines, sales bans), but the Directive does not harmonize penalty levels.
- Member State authorities check compliance at manufacturing, import and retail level under national transposition laws; non-compliant bottles cannot be placed on the market.

Implementation challenges:

Beyond industry adaptation which required major adjustments across the production chain (with upfront investment, higher technical complexity and redesigned inspection systems), key implementation challenges included uneven national transposition, unclear or inconsistent enforcement approaches, and limited guidance and awareness at consumer and authority level.

Outreach and awareness efforts:

- The European Commission communicated the rationale for tethered caps through guidance, Q & A documents and public information linked to the SUP Directive, explaining litter reduction and recycling benefits.
- Beverage producers and retailers informed consumers via packaging notices, websites and media statements, especially around the 2024 rollout, responding to consumer questions and criticism.

European Commission

They developed the policy proposal, coordinated stakeholder input, issued guidance and implementing acts, and oversaw standardization and compliance monitoring for the tethered caps requirement.

Council of the EU & European Parliament

Together, they set the binding legal obligation through the Single Use Plastics Directive, requiring that caps on plastic beverage bottles remain attached to reduce litter and improve recycling.

EU Member States

Member States must transpose the SUP Directive into national law and ensure that, e.g., design requirements are implemented and enforced. They are also responsible for monitoring, reporting data to the Commission and taking corrective action when producers or distributors do not comply.

Producers and industry associations

They were responsible for redesigning compliant cap and bottle systems, adapting production and inspection processes, and supporting the practical implementation of the tethered caps requirement.

Results, key impacts and learnings

Social Impact

Consumers, including vulnerable groups (elderly, children, disabled persons), reported inconvenience with tethered caps (e.g., caps hitting the face while drinking or being harder to open)

There is currently no evidence indicating negative social impacts for Informal collectors, who aggregate bottles



As the Directive is still new, its impacts have not yet been fully assessed. A complete evaluation by the Commission is planned for 2027.

Environmental Impact

Loose caps were found more than twice as often as bottles on EU beaches and it was estimated the tethered-cap requirement would greatly reduce separate cap litter.

Economic Impact

While there was some one-off investment costs for producers to adapt cap designs, tooling and inspection systems, no significant market disruption has been reported.

Key enablers of success:

- Clear, legally binding design requirements and targets.
- Design requirements such as tethered caps directly modify product functionality, potentially reducing litter without requiring changes in consumer behavior or disposal practices.

Insights for AMS:

- Design standards may be most effective when applied upstream at the level of product standards and market entry, where compliance can be enforced through producer and importer controls.
- Clear, harmonized technical specifications are critical; without it, enforcement becomes difficult and market adaptation uneven.

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Image created with Gemini

Checklist for Implementation

Organizational | Financial | Impact

Criteria	Indicator	Actions
Legal basis	• Law/regulation/decree	☑ EU Directive, transposed into the national laws of the Member States.
Implementation plan	• Policy guidelines including scope, timeline, obligated parties, exemptions, etc.	☑ Enforcing a binding EU wide design obligation with clear scope, timeline and obliged parties for all SUP beverage bottles placed on the market.
Roles & responsibilities	• List of organizations for implementation, enforcement, monitoring, engagement, etc.	☑ EU Commission, Member States, CEN, producers, brand owners, bottlers, fillers, market surveillance authorities, NGOs, associations.
Target setting	• Reduction in tons/% of SUP put on market, imported, waste, etc.	☑ Full ban on unattached bottle caps for SUP beverage bottles of up to 3 liters.
Capacity & staffing	• No. of monthly FTE hours for each role/expertise	☐ Temporary increase in workload during the redesign and testing phase. No publicly available data.
Enforcement & compliance	• No. of monthly inspections • No. of penalties issued	☐ ☐ No binding minimum, depends on the transposed national laws of Member States.
Stakeholder engagement	• No. of relevant stakeholders consulted	☑ Mainly technical (e.g., industry, standardization), consumer engagement was limited.
Up-front 'CAPEX'	• Amount in local currency	☐ Borne by producers in new cap designs, molds, filling lines etc. Costs vary; limited publicly available data.
Long-term 'OPEX'	• Amount in local currency	☐ Borne by producers and can vary; limited publicly available data.
Funding & revenue	• Amount in local currency	☐ Provided by producers and can vary; limited publicly available data.
Environmental impact	• Reduction in tons/% of SUP put on market, imported, waste, etc.	☐ Expected to reduce separate cap litter significantly. As implementation only took place recently, no assessments are available.
Social impact	• Behavioral changes • Public health & safety • Livelihood of vulnerable groups e.g., IWWs, low income communities	☑ Consumer frustration/ inconvenience has been reported. ☐ ☑ No impact on the informal sector.
Economic impact	• Cost of finished goods • Industry revenue • End of life recycling value	☑ ☐ ☐ One-off investment costs for producers to adapt cap designs, tooling and inspection systems, while no significant market disruption has been reported.

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Mandatory use of **SUP alternative**: jute packaging

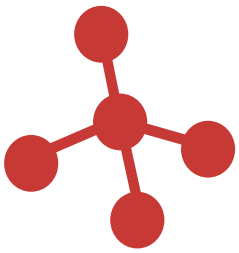


BACKGROUND & RATIONALE

Drivers behind the policy: Revitalizing the struggling domestic jute industry and supporting the livelihoods of millions of jute farmers by creating a guaranteed local market, while simultaneously addressing environmental pollution caused by plastic and synthetic alternatives.

Problem the policy aims to address: Socioeconomic issues caused by the decline of the jute industry as well as non-biodegradable plastic bags chronically clogging drainage systems and exacerbating floods.

Policy Overview



Targeted sectors:

Agricultural (food) products including paddy, rice, wheat, maize, sugar, ginger, garlic, onion, potato, flour, chilies, coriander, rice bran;

Fertilizer;

Agricultural (farming) products including fish feed, poultry feed.



Who it applies to:

Manufacturers, distributors, wholesalers, sellers, exporters, importers.



Key provisions:

Promotion of alternatives and cash incentives for exporting diversified jute products to encourage investment in Jute production.

How it happened

2002

Ban announced on plastic carrier bags thinner than 20 micros

Bangladesh Environmental Conservation Act 1995.

2010

Ban expansion to bags up to 50 microns thick

In tandem, the government introduced the Mandatory Jute Packaging Act 2010.

2013-2018

Mandatory Jute Packaging Law Enforcement

The act was properly enforced for 6 commodities. The list of mandatory commodities was expanded gradually, reaching 19 items in 2018.

2020

High court order on SUP ban

The High Court directed authorities to ban SUPs in coastal areas, hotels, motels and restaurants due to health and environmental hazards.

Enforcement tools and monitoring mechanisms:

- The launch of mobile court operations to prosecute offenders of the ban in 2002, led by judicial magistrates.
- Fine of BDT 50,000 (~USD 407) or a maximum of one year of jail for non-compliance.
- Controlling the production and use of polythene-made products through section 6A of the Bangladesh Environment Conservation Act 2022 (Amended).

Implementation challenges:

- Increase of PE-LD bags used due to Covid 19.
- Lack of adoption of the law due to lack of enforcement.
- Shift to the use of plastic amidst plastic use from competition, with sellers matching competitors.
- Increase in prices of raw jute due to supply chain issues, including jute hoarding.

Outreach and awareness efforts:

- Nationwide media campaign in 2024.
- Ministry of Textiles and Jute engaged with superstore operators to secure a supply of alternative bags.

Bangladesh Jute Spinners Association

Urges the government to fully enforce the Mandatory Jute Packaging Act alongside banning raw jute exports to stabilize jute prices.

Range of Supporting Agencies

Serve as key civil society partners by advocating for the policy, raising public awareness, and providing independent monitoring and research to support its implementation and success.

Bangladesh Jute Mills Corporation

Conducts advocacy campaigns to market jute products as alternative to SUPs.

Ministry of Textiles and Jute

Government body responsible for the implementation of the law.

Results, key impacts and learnings

Social Impact

Initially, consumer behavior changed as demand for jute rose in the 2002-2003 period following ban on plastic carrier bags.

Feed industry resistance was observed, with claims that Jute was too sensitive to humidity and made products rot quickly and lose quality.



Environmental Impact

Unfortunately, a lack of lasting impact has been observed due to lapses in enforcement - plastic consumption per capita has tripled in 2020 in comparison to 2002.

Economic Impact

Increased demand for jute products following SUP bans.

Key enablers of initial success:

- Strong political will at the start in ensuring a steady supply of jute packaging.
- Strong enforcement with significant penalties and targets for jute packaging production.

Insights for other AMS:

- Consistent, sustained enforcement is needed or compliance may not last if the SUP option is still cheaper and more convenient than the alternative.
- The alternative may need to be made more efficient to produce to meet rising consumer demand.
- The alternative may need to more closely match the quality of the SUP.

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Checklist for Implementation

Organizational | Financial | Impact

Criteria	Indicator	Actions
Legal basis	• Law/regulation/decree	☑ Mandatory Jute Packaging Act 2010
Implementation plan	• Policy guidelines including scope, timeline, eligible parties and products, etc.	☑ Producers, millers, traders, and suppliers required to use jute bags for packaging 17 to 19 specified essential commodities, enforcement beginning in January 2014.
Roles & responsibilities	• List of organizations for implementation, enforcement, monitoring, engagement, etc.	☑ Ministry of Textiles and Jute; Jute Mill Corporation; Jute Spinners Association; key civil society partners
Target setting	• Reduction in tons/% of SUP put on market, imported, waste, etc.	☑ Increase in annual Jute Sack use of ~ 690 million units, domestic Jute consumption to 91%
Capacity & staffing	• No. of monthly FTE hours for each role/expertise	☐ No publicly available data found
Enforcement & compliance	• No. of product verifications carried out	☐ No publicly available data found
Stakeholder engagement	• No. of relevant stakeholders consulted	☑ Continuous engagement with rice millers and traders due to concerns over jute sack supply and cost,
Up-front 'CAPEX'	• Amount in local currency	☐ No publicly available data found
Long-term 'OPEX'	• Amount in local currency	☐ No publicly available data found
Funding & revenue	• Amount in local currency	☐ No publicly available data found
Environmental impact	• Reduction in tons/% of SUP put on market, imported, waste, etc.	☐ Lack of lasting impact - plastic consumption per capita tripled in 2020 in comparison to 2002
Social impact	• Behavioral changes • Public health & safety • Livelihood of vulnerable groups e.g., IWWs, low income communities	☐ ☑ ☐ Feed industry resistance was observed, with claims that Jute was too sensitive to humidity and made products rot quickly and lose quality
Economic impact	• Net cost to funder of incentive • Industry revenue • Cost of finished products (alternative compared to SUP)	☐ ☐ ☐ Initial increased demand for Jute packaging, but no data on lasting increased revenue was found

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A national incentive system for green practices

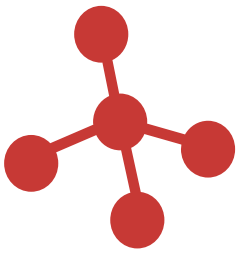


BACKGROUND & RATIONALE

Drivers behind the policy:
Prior voluntary plastic reduction initiatives achieved only modest adoption. The disposable cup deposit scheme attempted in 2002 had a low recovery rate. Citizens valued convenience over environment.

Problem the policy aims to address:
The lack of immediate economic incentives for consumers to engage in pro-environmental behaviors due to inconvenience associated with sustainable actions.

Policy Overview







Targeted sectors:

Primary: General public/consumers

Secondary: Retail and service sectors

Who it applies to:

Consumers who register for the system managed by K-eco and engage in participating merchants. Participants can earn up to KRW 70,000 (~USD 47 per person, per year).

Key provisions:

The system provides direct cash or credit card point rewards for specific verifiable actions. Key reward rates include:

- Use of refill stations: KRW 2,000 (~USD 1.4)
- Use of reusable containers: KRW 1,000 (~USD 0.7)
- Use of reusable tumblers/cups: KRW 300 (~USD 0.2)

How it happened

2021

- Framework Act on Carbon Neutrality and Green Growth passed in National Assembly. Article 67 mandated creation of "Carbon Neutrality Practice Point", CNPP system.
- Ministry of Environment (MOE) and Ministry of Food and Drug Safety (MOFDS) launched support measures for refill shops and guidelines on multiple-use containers to facilitate infrastructure needs.

2022

- The CNPP system officially launched nationwide, with an operational budget of KRW 2.4 billion (~USD 1.6 million).

2023

Due to the program's success and the need for expansion, the budget was increased to KRW 8.9 billion (~USD 6 million).

2024

Carbon Pay app launched. Enables one-click QR code scanning, unified account management, real-time points viewing, participating merchant finder.

Enforcement tools and monitoring mechanisms:

- The system is managed by the Korea Environment Corporation, K-eco. Barcode-scanning systems track cup returns and generate compliance reports for each outlet.
- Points for reusable cups are verified through IoT-connected return machines (like those by Oysterable), apps (e.g., "Today's Recycle" or "Clean Jeju" app), collaborates with companies (like Starbucks or refill shops) that track the return of items and refill shop, Almang Market

Implementation challenges:

- To make reuse systems (which earn points) viable, the government had to issue guidelines on standardizing multiple-use containers and hygiene management to ensure safety and consumer trust

Outreach and awareness efforts:

- The government collaborates with delivery apps and kiosks to set "no disposable products" as the default option, pushing consumers toward the behaviors rewarded by CNPP
- Promoting eco-friendly stores and providing data on carbon emissions for products to encourage "meaning out" consumption.

Retailers

Major chains like Starbucks participate in the reusable cup recovery systems linked to these incentives.

Reusable system providers

Oysterable (IoT circulation infrastructure) and Almang Market (refill retail) serve as key partners where consumers can perform the actions to earn points.

K-eco

Manages the operation of the CNPP system.

Ministry of Environment

Policy design, target-setting, budget and overall strategy.

Results, key impacts and learnings

Social Impact

- The rapid increase in the number of refill stores (from 10 to over 200 in less than two years) suggests that financial incentives combined with government support are effectively driving social acceptance of reuse models.
- The tripling of the budget indicates higher-than-expected public participation and demand for these incentives.



Environmental Impact

- South Korea avoided the use of approximately 5.8 million single-use cups in 18 months
- Almang Market successfully reduced the use of 75,000 plastic containers (100ml equivalent) in 2021 by allowing customers to refill.

Economic Impact

- Consumers can earn a tangible return - up to KRW 70,000 (~USD 47) for their actions, offsetting the "convenience cost" of disposables.
- CNPP system partially finances the incentives for Almang Market's reusable product which improve the customer base for green businesses (refill shops, reusable container services)

Key enablers of success:

- Government funding helps make sustainable actions more attractive by giving people clear financial incentives to change their behavior.
- Apps and IoT devices automatically track actions, like returning a cup, reducing fraud and administrative burden.
- The government utilizes behavioral nudges in collaboration with delivery apps and kiosks and implicit use of a "ban" in tandem on provision of disposable products by default.

Insights for other AMS:

- For island countries, it may be cheaper to support refill and reuse systems instead of transporting recyclables.
- With high digital penetration, apps can easily track and reward green actions, rewarding people for the "inconvenience" of carrying reusables.
- It may be beneficial to start with pilots in high traffic areas, like tourist spots or business districts before rolling out nationwide

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Checklist for Implementation

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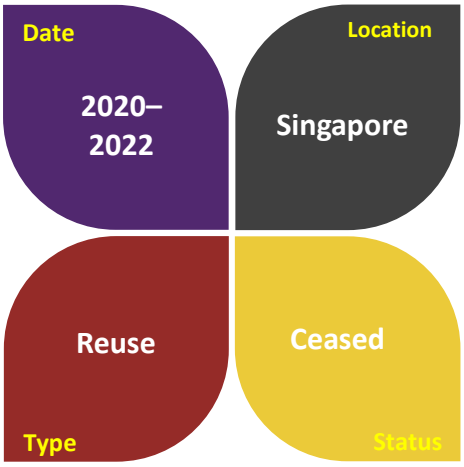
Criteria	Indicator	Actions
Legal basis	• Law/regulation/decree	☑ Article 67 of the Framework Act on Carbon Neutrality and Green Growth for Coping with Climate Crisis
Implementation plan	• Policy guidelines including scope, timeline, eligible parties and products, etc.	☑ A clearly defined reward structure in place. Plan for expansion from 2022 and 2023 to support broader public participation.
Roles & responsibilities	• List of organizations for implementation, enforcement, monitoring, engagement, etc.	☑ Ministry of Environment (MOE), Korea Environment Corporation (KECO) Private partners (e.g., Starbucks, Oysterable, Almang Market)
Target setting	• Reduction in tons/% of SUP put on market, imported, waste, etc.	☐ No publicly available data found
Capacity & staffing	• No. of monthly FTE hours for each role/expertise	☐ No publicly available data found
Enforcement & compliance	• No. of product verifications carried out	☐ No publicly available data found
Stakeholder engagement	• No. of relevant stakeholders consulted	☑ MOE task force convened with Finance Ministry, Local Govts, KECO, retailers, food delivery apps, kiosk operators, etc
Up-front 'CAPEX'	• Amount in local currency	☐ No publicly available data found
Long-term 'OPEX'	• Amount in local currency	☐ No publicly available data found
Funding & revenue	• Amount in local currency	☑ 2023 annual budget was ~8.9 billion KRW (~6 million USD)
Environmental impact	• Reduction in tons/% of SUP put on market, imported, waste, etc.	☑ Pilot projects linked to reuse incentives avoided ~5.8 million cups between July 2021 and Dec 2022. Participating stores like Almang Market reduced the use of 75,000 plastic containers in 2021.
Social impact	• Behavioral changes • Public health & safety • Livelihood of vulnerable groups e.g., IWWs, low income communities	☑ Number of refill stores grew from 10 in 2021 to over 200 in early 2023 ☐ ☐
Economic impact	• Net cost to funder of incentive • Industry revenue • Cost of finished products (alternative compared to SUP)	☐ No publicly available data found ☐ No publicly available data found ☐ No publicly available data found

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A voluntary, private sector pilot: reusable takeaway containers

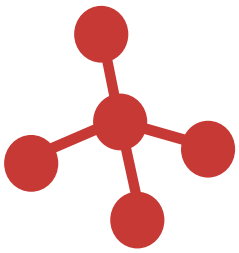


BACKGROUND & RATIONALE

Drivers behind the initiative: The initiative was launched in response to growing concern over SUP waste from food delivery. Delivery platforms noticed consumer demand for more sustainable takeaway options, leading to the introduction of reusable packaging through voluntary action.

Problem the initiative aims to address: Reduce SUP usage in the takeaway delivery through options of reusable packaging.

Initiative Overview







Targeted sectors:

Food delivery and takeaway services using single-use food containers.

Who it applies to:

GrabFood as the delivery platform; third-party reusable packaging providers (barePack, Muuse); participating restaurants offering delivery meals; consumers placing orders via the GrabFood app and opting into reusable containers.

Key provisions:

Optional selection of reusable food containers at the point of ordering.

Partnerships with third-party providers supplying reusable containers.

Containers returned through a city-wide network of participating restaurants or via home-collection services.

How it happened

Sep 2020

Consumer pressure meets platform pilots

GrabFood partnered with Muuse to pilot reusable food containers, responding to rising concern about delivery-related packaging waste.

Dec 2020

Reuse option launched at scale

GrabFood partnered with barePack, offering reusable containers at over 80 restaurants across Singapore, aligning with similar moves by Deliveroo and Foodpanda.

2021

Availability without significant uptake

Despite wide platform coverage and a city-wide return network, participating restaurants reported low consumer uptake of the reusable option in several areas.

Nov 2022

Operational limits exposed

barePack ceased operations due to adoption and cost challenges, while Grab continued limited reuse pilots with Muuse in controlled settings such as its headquarters.

Enforcement tools and monitoring mechanisms:

No formal enforcement mechanisms were associated with the initiative. Based on publicly available information, participation was voluntary and no standardized monitoring or reporting of uptake was disclosed. Observations on performance were primarily drawn from reuse providers and participating restaurants rather than from formal compliance systems.

Implementation challenges:

The main challenge was the mismatch between stated consumer demand and actual behavior. Although reusable options were introduced in response to consumer interest and made widely available through major delivery platforms, uptake remained low where single-use packaging continued to offer a more convenient default. This shows that expressed demand alone did not translate into sustained use of reusables when additional effort was required at the point of return.

Outreach and awareness efforts:

Outreach focused mainly on platform-based visibility, with reusable containers offered as an opt-in choice during the ordering process. Reuse providers engaged restaurants and consumers directly to promote participation. No information was found on broader public awareness campaigns or sustained incentive mechanisms linked to the initiative.



Consumers (App Users)

Chose whether to opt in to reusable containers when placing orders. Responsible for returning used containers through restaurant drop-off points or collection services.

Reusable packaging providers (barePack, Muuse)

Supplied reusable containers and operated the return, collection, cleaning, and redistribution systems. Bore the main operational and cost burden of running the reuse system and depended on consumer participation to remain viable.

Food delivery platforms

Enabled the reuse option on the ordering platform and partnered with third-party providers to offer reusable containers to consumers. Provided access to a large customer base but did not mandate or incentivize reuse over single-use packaging.

Results, key impacts and learnings

Social Impact

Addressed consumer concern about packaging waste and increased awareness of reusable alternatives in food delivery. However, requirement to return containers introduced additional effort for consumers, and uptake remained low despite expressed interest. No impacts on vulnerable or disadvantaged groups reported.



Environmental Impact

Anecdotally, containers can be reused more than 500 times and reduce CO_2 emissions by up to 90 percent compared to single-use alternatives, but no system-wide environmental impact assessment was published.

Economic Impact

Potential per-order savings were reported but not independently verified. High operational and logistics costs limited the financial viability of the reuse system.

Key enablers of success:

- Strong initial consumer interest.
- Integration of reusable options into major food delivery platforms with high market penetration, ensuring visibility and repeated access.
- Availability of a city-wide return network, including restaurant drop-off points and optional collection services.

Insights for other AMS:

- Expressed consumer demand may not automatically translate into uptake, particularly where SUPs remains the most convenient option.
- Voluntary, opt-in reuse systems are unlikely to scale without complementary measures that reduce the convenience or cost advantage of single-use packaging.

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Checklist for Implementation

Organizational | Financial | Impact

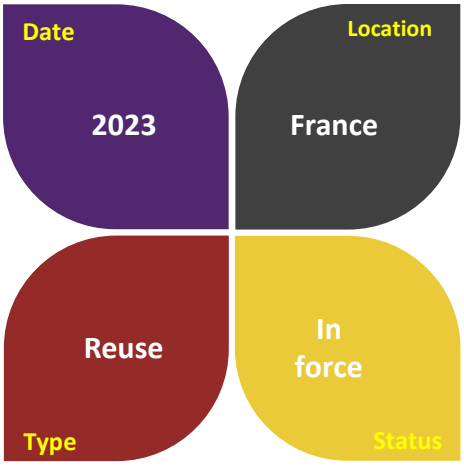
Criteria	Indicator	Actions
Legal basis	• Law/regulation/decree	☐ None. Voluntary initiative with no regulatory mandate.
Implementation plan	• Policy guidelines including scope, timeline, obligated parties, exemptions, etc.	☐ No formal or publicly documented implementation plan.
Roles & responsibilities	• List of organizations for implementation, enforcement, monitoring, engagement, etc.	☑ GrabFood, barePack, Muuse
Target setting	• Reduction in tons/% of SUP put on market, imported, waste, etc.	☐ No formal targets for uptake, reuse rates, or waste reduction were disclosed.
Capacity & staffing	• No. of monthly FTE hours for each role/expertise	☐ No information on staffing levels or capacity planning.
Enforcement & compliance	• No. of monthly inspections • No. of penalties issued	☐ Not applicable. Participation was voluntary; no enforcement or compliance mechanisms. ☐
Stakeholder engagement	• No. of relevant stakeholders consulted	☐ No evidence or insights of broader stakeholder consultations
Up-front 'CAPEX'	• Amount in local currency	☐ Not publicly disclosed
Long-term 'OPEX'	• Amount in local currency	☐ High operational costs reported; specific figures not disclosed.
Funding & revenue	• Amount in local currency	☐ No public subsidies reported
Environmental impact	• Reduction in tons/% of SUP put on market, imported, waste, etc.	☑ Reuse providers reported potential reductions in emissions and waste; no independently verified or system-wide impact assessment available.
Social impact	• Behavioral changes • Public health & safety • Livelihood of vulnerable groups e.g., IWWs, low income communities	☑ Raised awareness of reusable options but required additional effort from consumers; uptake remained low despite expressed interest. ☐ ☐
Economic impact	• Cost of finished goods • Industry revenue • End of life recycling value	☑ Potential cost savings for vendors were reported by providers but not verified; ☐ ☐

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Mandatory, national re-usable tableware for dine-in

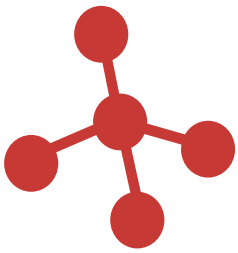


BACKGROUND & RATIONALE

Drivers behind the policy: The Anti-Waste and Circular Economy Law, designed to accelerate sustainable production and consumption, reduce waste, and protect natural resources.

Problem the policy aims to address: The French fast-food sector generates ~180,000 tons of packaging waste annually, largely from single-use items, previously used for on-site dining. Fast-food restaurants and diners are now required to use reusable tableware, significantly reducing packaging waste.

Policy Overview



Targeted sectors:

All food service establishments including fast food, cafeterias, transport and leisure venue dining in France must use reusable tableware for on-premises consumption.



Who it applies to:

The obligation covers all food service operators with a seating capacity of at least 20 guests. This encompasses: quick-service restaurants, workplace canteens, school cafeterias, and other comparable facilities.



Key provisions:

From 1 January 2023, disposable plates, cups and cutlery must be replaced with reusable tableware for on-premises consumption.

Non-compliance is subject to administrative sanctions and fines.

How it happened

2020

Adoption of the AGEC law

The Anti-Waste and Circular Economy Law (The Loi Anti-Gaspillage pour une Économie Circulaire (AGEC)) was passed, laying the legal groundwork for phasing out single-use plastics including tableware.

2022

Decrees and regulatory detail

Implementation rules and decrees were finalized that specified how the reusable tableware requirement would apply in practice ahead of enforcement.

2023

Reuse mandate comes into force

From 01 Jan 2023 on, all dine-in food service establishments serving at least 20 guests must use reusable tableware instead of disposables.

2023

Reviews show poor application and control

Compliance of establishments remained low (~40 percent or more still do not comply). Enforcement has been limited, with few inspections and sanctions relative to the number of affected outlets.

Enforcement tools and monitoring mechanisms:

Compliance is monitored by the DGCCRF (Engl.: Directorate-General for Competition, Consumer Affairs and Fraud) for consumer and market practices and by the DREAL (Eng.: regional directorates for the environment, planning and housing) through regional environmental inspections. Non-compliance can result in a EUR 1,500 fine (repeat offences up to EUR 3,000) for individuals and EUR 15,000 for legal entities, with possible daily penalties of up to EUR 1,500 until compliant.

Implementation challenges:

According to the National Union of Food and Fast Food (SNARR), compliance has created high costs of up to EUR 100,000 per food establishment and operational challenges including limited space, supply shortages and loss of reusable items. These issues reflect the significant operational shift required to replace single use tableware in dine in settings. Independent and smaller places needed more time to adapt to the regulations; violations were recorded more frequently here.

Outreach and awareness efforts:

There is no clear evidence of official national advertising, education campaigns, or consumer outreach programs specifically dedicated to the reusable tableware requirement beyond these industry engagement efforts and the broader AGEC objectives to inform consumers about environmental practices.

Food service establishments

All food service establishments including fast food, cafeterias, transport and leisure venue providing dining-in option in France must use reusable tableware for on-premises consumption.

Enforcement authorities

The **DGCCRF** monitors consumer protection and market practices.
The regional directions, **DREAL**, are dealing with environmental and regulatory compliance.

DGCCRF

RÉPUBLIQUE FRANÇAISE
Liberté
Égalité
Fraternité

French Republic

The National Assembly and the Senate have adopted, The President of the Republic promulgates the law 2020-105 on combating waste and the circular economy (AGEC).

Results, key impacts and learnings

Social Impact

Shift to reusable tableware challenges consumer habits built around convenience and disposability, with acceptance influenced by experience and perceptions of sustainability.

No evidence that the ban on single use tableware has directly affected vulnerable groups or the informal sector.



Environmental Impact

Fast food restaurants produce 180,000 tons of single-use tableware waste annually. By mandating the utilization of reusable tableware, this figure is expected to be significantly reduced.

Economic Impact

Restaurants and food chains have faced operational and cost impacts as they adapt facilities and processes to wash and manage reusable items rather than using disposables.

Key enablers of success:

- A clear and binding legal mandate under the AGEC, leaving no discretion on compliance.
- Detailed implementing decrees, defined responsibilities and clear enforcement arrangements, including inspections, fines,
- A narrowly defined policy scope (on-site consumption in fast-food outlets above a threshold)

Insights for other AMS:

- Mandatory reuse requirements can rapidly eliminate SUPs in specific settings where enforcement is feasible, and consumption patterns are predictable.
- Clear legal definitions, thresholds, and enforcement mechanisms are critical to avoid uneven application and compliance gaps.
- Shifting costs and operational responsibility to food service operators may require capacity assessment before scaling

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Checklist for Implementation

Organizational | Financial | Impact

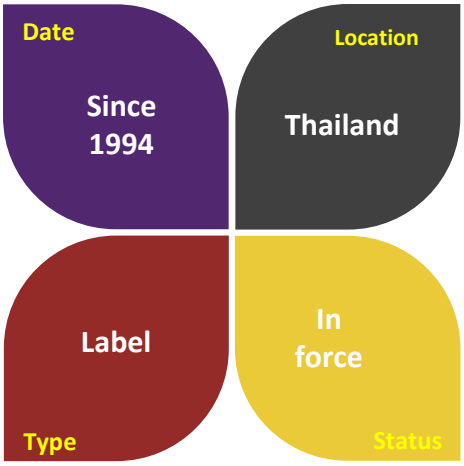
Criteria	Indicator	Actions
Legal basis	• Law/regulation/decree	☑ Reuse mandate for on-site consumption (AGEC).
Implementation plan	• Policy guidelines including scope, timeline, obligated parties, exemptions, etc.	☑ No separate additional guidelines, only clarifying implementing provisions by decree (serving at least 20 guests, from 01 Jan 2023).
Roles & responsibilities	• List of organizations for implementation, enforcement, monitoring, engagement, etc.	☑ Government of the French Republic, DGCCRF, DREAL, SNARR, Food service establishments
Target setting	• Reduction in tons/% of SUP put on market, imported, waste, etc.	☑ Full and immediate legal obligation for all on-site consumption to use reusable tableware.
Capacity & staffing	• No. of monthly FTE hours for each role/expertise	☐ No published estimates exist. Businesses report more staff is needed for washable tableware.
Enforcement & compliance	• No. of monthly inspections • No. of penalties issued	☑ 380 inspections in 2023/24, ☐
Stakeholder engagement	• No. of relevant stakeholders consulted	☑ Policymakers, local authorities, NGOs, businesses, and citizens.
Up-front 'CAPEX'	• Amount in local currency	☐ Mainly for operators. No public data available, costs vary.
Long-term 'OPEX'	• Amount in local currency	☐ Mainly for operators. No public data available, costs vary.
Funding & revenue	• Amount in local currency	☐ No funding provided
Environmental impact	• Reduction in tons/% of SUP put on market, imported, waste, etc.	☐ Significant reduction of SUP waste is expected, but no impact assessment has been done so far.
Social impact	• Behavioral changes • Public health & safety • Livelihood of vulnerable groups e.g., IWWs, low income communities	☑ The shift challenges convenience driven consumer habits and increases sustainability awareness. ☐ ☐
Economic impact	• Cost of finished goods • Industry revenue • End of life recycling value	☐ No data available aside from the operators' reports on the costs of the implementation (costs vary). ☐ ☐

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THAILAND ENVIRONMENT INSTITUTE

A voluntary, national Green Label Scheme

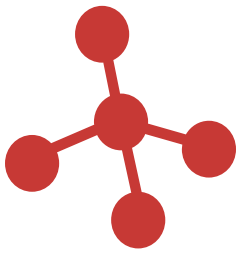


BACKGROUND & RATIONALE

Drivers behind the policy: Creating market incentives for manufacturers to supply greener products and to reduce the environmental impact associated with their products.

Problem the policy aims to address: Unreliable information on environmentally preferable products for consumers, as well as products with significant and avoidable negative environmental impacts.

Policy Overview



Targeted sectors:

Manufacturing, distribution, retail and service provider.



Who it applies to:

All products and services excluding food, beverage and pharmaceuticals.



Key provisions:

Range of green labels and criteria for certification of SUP related products. For example:

TGL-105-R1-22: Plastic Packaging – For food products, packaging must be either 100% recyclable mono-material or 25% bio-based material by weight, or purified as a base substrate if it is recycled content. For non-food packaging, different products are required to have a certain % of recycled content.

How it happened

1993

Conceptualisation of scheme

Scheme conceptualised and initiated by the Thailand Business Council for Sustainable Development (TBCSD).

1994

Launch of TGL

Scheme formally launched by the Thailand Environment Institute (TEI) in association with the Thai Industrial Standards Institute (TISI), Ministry of Industry.

2007

Green Public Procurement Launch

Green Public Procurement launched with the aim of promoting sustainable consumption and production.

2022

MOU with GPP

TGL signed an MOU with the Pollution Control Department to promote all certified type I ecolabel products and services for government procurement.

Enforcement tools and monitoring mechanisms:

- Contract between TEI and the applicant is drawn up, the Green Label is conditional upon fulfilling the contract's terms and is valid for a maximum of 3 years, or until the product criteria is reassessed.
- Certification requires the submission of evidences of compliance that is verified by a third party.
- Certification is through the life cycle according to the ISO14024 Standard and partially according to the ISO/IEC 17065 Standard.

Implementation challenges:

- The label is voluntary in nature, which lacks legal enforcement.
- Financial constraints for suppliers in getting certification.

Outreach and awareness efforts:

- Green Public Procurement (GPP) designates the Green label as a preferred standard for government purchases.

Range of Supporting Agencies

The label's success is due to the collaboration of the government, private sector, technical experts and non-profit organizations.

TBCSD THAILAND BUSINESS COUNCIL FOR SUSTAINABLE DEVELOPMENT
องค์กรธุรกิจเพื่อการพัฒนาอย่างยั่งยืน

TEI THAILAND ENVIRONMENT INSTITUTE

Thailand Environment Institute

A non-profit that administers the scheme and serves as the secretariat.

Thai Business Council for Sustainable Development

Conceptualized the scheme and represents the interests of the business community.

TISI

Thai Industrial Standards Institute

Co-secretariat alongside TEI and provides technical expertise.

Ministry of Natural Resources and Environment Thailand

Provides policy direction and oversight for the label. The Pollution Control Department (PCD) is the focal point for the GPP.

Results, key impacts and learnings

Social Impact

77.1% of Thailand's general population is aware of the Thai Green Label, but no information available on if it has affected their purchasing behavior.



Environmental Impact

Over 8000 product models certified across 126 criteria;

Since MOU signing with GPP, 49% of goods purchased by participating agencies are "environmentally friendly".

Economic Impact

Unavailable data points on how the label has increased the revenue of manufacturers of green-labelled products.

Key enablers of success:

- Integration with Green Public Procurement (GPP) to encourage the prioritization of green-labelled products.
- Multi-stakeholder collaboration with the private sector and the government.
- Clear, prescriptive standards that are aligned with international standards to ensure recognition and rigor.

Insights for other AMS:

- Introduction of incentives e.g., subsidies to MSMEs may encourage label adoption.
- Increased education and awareness for consumers is needed to spur demand for green products.
- This may include comparative studies between label and non-label products, or the Introduction of a national-level life cycle inventory database.

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Checklist for Implementation

Organizational | Financial | Impact

Criteria	Indicator	Actions
Legal basis	• Law/regulation/decree	☐ Not applicable (voluntary)
Implementation plan	• Policy guidelines including scope, timeline, eligible parties and products, etc.	☑ Awarded to manufacturers, retailers, importers, and suppliers of products (bar exclusions) who meet specific criteria. Valid for three years
Roles & responsibilities	• List of organizations for implementation, enforcement, monitoring, engagement, etc.	☑ Ministry of National Resources and Environment; TISI; TEI; TBCSD; etc.
Target setting	• Reduction in tons/% of SUP waste • Increase in recycling rate	☐ Only qualitative target to increase number of certified products and categories ☐
Capacity & staffing	• No. of monthly FTE hours for each role/expertise	☐ No publicly available data found
Enforcement & compliance	• No. of product verifications carried out	☐ No publicly available data found
Stakeholder engagement	• No. of relevant stakeholders consulted	☑ Continuous engagement with technical subcommittees including academic experts, industry representatives, environmental groups, etc.
Up-front 'CAPEX'	• Amount in local currency	☐ No publicly available data found
Long-term 'OPEX'	• Amount in local currency	☐ No publicly available data found
Funding & revenue	• Amount in local currency	☐ No publicly available data found
Environmental impact	• Reduction in tons/% of SUP waste • Increase in recycling rate	☐ Over 8000 product models certified across 126 criteria, but no direct environmental benefit quantified ☐
Social impact	• Behavioral changes • Public health & safety • Livelihood of vulnerable groups e.g., IWWs, low income communities	☐ 77.1% of Thailand's general population is aware of the Thai Green Label, but no more specific publicly available data found on impact. ☐ ☐
Economic impact	• Cost difference of more sustainable certified products • End of life recycling value	☐ No publicly available data found ☐

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Nestlé Good food, Good life

A **voluntary, private sector** recycling label



Date
Since 2020

Location
Malaysia

Type
Label

Status
In force

BACKGROUND & RATIONALE

Drivers behind the policy: Nestlé Malaysia's commitment to achieve a waste-free future by providing a user-friendly, consistent, and transparent labelling system to make it easier for consumers to correctly dispose of their packaging.

Problem the policy aims to address: Low recycling rates and separation at source due to:
1) Confusing, inconsistent range of labels in the market
2) Doubts what can be recycled and how

Policy Overview

Target segment:

Consumers, Recycling aggregators.

What it applies to:

All Nestlé Malaysia's recyclable packaging products.

Key provisions:

Harmonized, user-friendly on-pack labelling system with clear visuals and text on how to dispose of each component of a product's packaging, breaking down complex items (like a box, inner pouch, and scoop) into distinct parts.

Often includes preparation steps for recyclables (like "Rinse") or direction on where to dispose the item (such as a specific recycling bin or drop-off location).

How it happened

Apr 2018

Announcing of global target

Nestlé Global announced the ambition to make 100% of its packaging recyclable or reusable by 2025. This set the overarching goal for the local initiative.

Early 2020

Introduction of recycling label

Harmonized on-pack Recycling Guide Box introduced as part of Nestlé Malaysia's overall voluntary EPR program - Project SAVE (Sustainable Action Via Education and Waste Collection).

End 2020

Ambitious target set

Recycling Guide Box targeted to be rolled out onto at least 80% of Nestlé Malaysia's recyclable product packaging by the end of 2021.

2025+

Ongoing progression

Nestlé Malaysia continues to expand the guide's presence toward its ultimate goal of 100% of its packaging being recyclable or reusable and clearly labelled by 2025.

Enforcement tools and monitoring mechanisms:

- No enforcement required since it is voluntary for consumers to dispose as per instructions.
- However there is monitoring of outcomes of overall Project SAVE, i.e., tons of recyclables collected and diverted away from waste streams.

Implementation challenges:

- Apathy and habits of most consumers to not follow guide box instructions to practice separation at source or properly clean recyclables.
- Following through with improving manufacturing of packaging to be 100% recyclable or reusable by 2025, especially for low value, flexible, multilayer packaging.
- Inconsistent/inadequate collection infrastructure of recyclables.

Outreach and awareness efforts:

- Consistent Community Education and Public Awareness (CEPA) activities for SAVE project to encourage separation at source and socialize household recycling collection programs, including flyers, posters, door-to-door engagement, recycling booths, etc.
- The label itself acts as an outreach and communication tool.

Results, key impacts and learnings

Social Impact

Label simplifies a complex topic (recycling symbols) into a user-friendly, consistent format, directly addressing low consumer awareness and confusion, therefore enhancing consumer literacy and stimulating positive behavior change.



Environmental Impact

Direct effect of the label is difficult to quantify, but project SAVE as a whole recovered 13,500 tons of post-consumer packaging waste in 2024, of which approximately 9,624 tons were plastics.

Economic Impact

No publicly available data could be found for the economic benefits of the label.

Key enablers of success:

- Clear and ambitious overarching targets for recyclability, diversion, etc.
- Strong pressure from holding company - Nestle Global.
- Close coordination with design and manufacturing to increase recyclability of packaging.
- Implementation in tandem with voluntary EPR collection scheme.

Insights for other AMS:

- Recycling labels and guidance is unlikely to be successful on its own if most packaging is non-recyclable and recycling collection infrastructure is not present.
- However while developing recycling systems e.g., , alongside EPR, such labels provide valuable community education and support increased recovery of recyclables.

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https://www.nestle.com.my/sites/g/files/pydnoa251/files/2025-04/NESTLE-NIS2024.pdf

Checklist for Implementation

Organizational | Financial | Impact

Criteria	Indicator	Actions
Legal basis	• Law/regulation/decree	☐ Not applicable (voluntary, private)
Implementation plan	• Policy guidelines including scope, timeline, eligible parties and products, etc.	☑ Utilized on product packaging, introduced since early 2020 with implementation targets in place over time and coordination to align product design to be made more recyclable
Roles & responsibilities	• List of organizations for implementation, enforcement, monitoring, engagement, etc.	☐ Not applicable (voluntary, private)
Target setting	• Reduction in tons/% of SUP waste • Increase in recycling rate	☐ ☑ 80% of product packaging recyclable by the end of 2021. Wider project SAVE targets plastic neutrality (100% recovery rate by 2025)
Capacity & staffing	• No. of monthly FTE hours for each role/expertise	☐ No publicly available data found
Enforcement & compliance	• No. of product verifications carried out	☐ Not applicable (voluntary, private)
Stakeholder engagement	• No. of relevant stakeholders consulted	☑ Engagement with industry peers, consumers, local councils and authorities, etc.
Up-front 'CAPEX'	• Amount in local currency	☐ No publicly available data found
Long-term 'OPEX'	• Amount in local currency	☐ No publicly available data found
Funding & revenue	• Amount in local currency	☐ No publicly available data found
Environmental impact	• Reduction in tons/% of SUP waste • Increase in recycling rate	☑ ☑ Project SAVE (voluntary EPR) recovered 13,500 tons of post-consumer packaging waste in 2024 including 9,624 tons of plastic. However, contribution of label may be minor.
Social impact	• Behavioral changes • Public health & safety • Livelihood of vulnerable groups e.g., IWWs, low income communities	☑ ☐ ☐ Anecdotally enhanced consumer literacy and stimulated positive behavior change
Economic impact	• Cost difference of more sustainable certified products • End of life recycling value	☐ ☐ No publicly available data found

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Mandatory Extended Producer Responsibility (EPR)

Date
Since 2019

Location
Philippines

Type
EPR

Status
In force

BACKGROUND & RATIONALE

Drivers behind the policy: The need to shift the financial and physical burden of waste management from the government to producers and importers, aiming to combat rising pollution and promote a circular economy.

Problem the policy aims to address: The detrimental effects of plastic pollution due to increased consumption of packaging and generation of waste.

Policy Overview

Targeted sectors:

Wide range of applicable sectors including food, cosmetics, pharmaceutical, etc. that use SUP packaging.

Who it applies to:

Producers and importers of range of plastic products with revenue greater than PHP 100 million (USD 1.7 million).

Key provisions:

Incremental phased recovery targets set from 2023-2028 to be achieved through their registered EPR programs and reported annually.

How it happened

Jul 2022

Policy is announced

Timeline introduced starting 2024

Republic Act No. 11898 - "Extended Producer Responsibility Act of 2022" lapsed into law.

Aug 2022

Law took effect

Amendment Decree 08/22/ND-PC applies clear mandatory recycling rates for individual products.

Jan 2023

Detailed guidelines published

Department of Environment and Natural Resources (DENR) issued the Implementing Rules and Regulations (IRR) for the EPR Act. Obliged enterprises are required to report their packaging volumes and register EPR programs.

Dec 2023

First recovery target milestone set

Recovery target milestone of 20% for 2023, with following targets escalating annually.

Enforcement tools and monitoring mechanisms:

- Annual compliance reports must be submitted with verified recovery outcomes audited by third-party auditors to be evaluated by the DENR.
- Staggered, escalating fines for companies that do not register their EPR programs or fail to meet the diversion target. After a third offence, business permit will be suspended until compliance is achieved.

Implementation challenges:

- Data transparency due to a lack of standardized data collection mechanism/portal.
- Integrating the extensive informal waste sector into formal recycling collection systems.
- Still developing waste management and recycling facilities/infrastructure.
- Only 947 out of an est. required 2130 companies have registered EPR programs.

Outreach and awareness efforts:

- Nationwide media campaigns and collaboration with NGOs etc. to increase awareness of general public about separation at source (SAS).
- Roadshows and informational sessions with obliged enterprises, Producer Responsibility Organizations (PROs), and Local Government Units (LGUs).

Producer Responsibility Organizations (PROs)

Private, non-profit organizations created by obliged enterprises to collectively manage and implement their EPR programs. They handle waste recovery, recycling, and reporting, providing a more efficient way to meet the EPR targets.

Formal recyclers

Licensed companies and facilities responsible for processing the waste materials collected under the EPR system.

Local Government Units (LGUs)

Collaborate with obliged enterprises and PROs to integrate EPR initiatives into their existing solid waste management systems, which include segregated collection and material recovery facilities.

National Ecology center (NEC)

Technical and data-management arm of the DENR, providing vital information, training, and a networking platform to support the implementation of the country's solid waste and EPR policies.

National Solid Waste Management Commission (NSWMC)

Commission under the DENR that oversees the registration of EPR programs and monitors compliance.

Department of Environment and Natural Resources (DENR)

Lead implementing agency, responsible for formulating the Implementing Rules and Regulations (IRR), overseeing compliance, and enforcing penalties for non-compliance.

Results, key impacts and learnings

Social Impact

Within the EPR law's Implementation Rules and Regulations (IRR), strategies and partnership with communities and the informal waste workers sector are recommended.



Environmental Impact

Enabled the recovery and diversion of 163,000 tons of post-consumer plastic packaging waste in 2023, exceeding the 20% target. However, it is unclear how much of the recovered plastic is recycled, as scheme allows for thermal treatment, sanitary landfilling, etc.,

Economic Impact

No publicly available data could be found for the total EPR fees collected, revenue from fines issued, etc.

Key enablers of success:

- Clear outline of roles and responsibilities.
- Detailed guidance including scope, boundaries.
- Escalating annual recovery targets.
- Mandatory reporting.
- Strong penalties for non-compliance.

Insights for other AMS:

- Clear guidelines, definitions, etc. should be set when drafting the EPR policy.
- Realistic but ambitious targets allow for the success of the EPR system to be measured and provides motivation.
- Every company registering their own EPR program may be less efficient and risk more "freeloaders" than optional contribution of EPR fees to a PRO.
- More granular requirements for the treatment of the recovered plastic may lead to greater environmental impact.

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Checklist for Implementation

Organizational | Financial | Impact

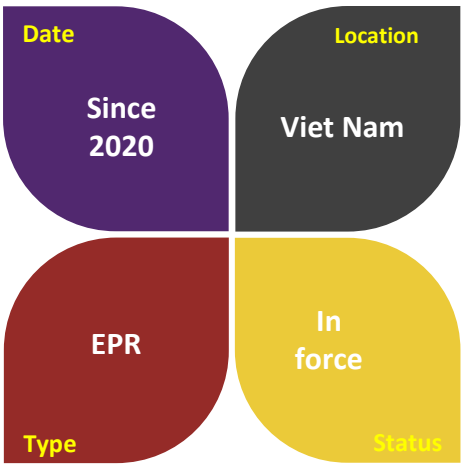
Criteria	Indicator	Actions
Legal basis	• Law/regulation/decree	☑ Republic Act No. 11898
Implementation plan	• Policy guidelines including scope, timeline, obligated parties and products, exemptions, etc.	☑ Obliged enterprises - total assets > PHP 100 million (USD 1.7 million) must register EPR programs to recover, reuse, or offset plastic packaging waste within 6 months
Roles & responsibilities	• List of organizations for implementation, enforcement, monitoring, engagement, etc.	☑ DENR; NSWMC; NEC; local government units; formal recyclers; producer responsibility organizations
Target setting	• Reduction in tons/% of SUP put on market, waste, etc. • Increase in recovery rate • Increase in recycling rate	☐ 20% recovery rate in 2023 and increasing annually up to 80% by 2028 ☑ ☐
Capacity & staffing	• No. of monthly FTE hours for each role/expertise	☐ No publicly available data found
Enforcement & compliance	• No of producers registered • No. of audits carried out • No. of penalties issued	☑ 947/2130 required companies registered ☐ ☐
Stakeholder engagement	• No. of relevant stakeholders consulted	☑ Conducted nationwide with WWF Philippines, engaging NGOs, industry, LGUs, and informal sector actors
Up-front 'CAPEX'	• Amount in local currency	☐ No publicly available data found
Long-term 'OPEX'	• Amount in local currency	☐ No publicly available data found
Funding & revenue	• Amount in local currency	☐ No publicly available data found
Environmental impact	• Reduction in tons/% of SUP waste • Increase in recycling rate	☑ Recovery of 163,000 MT of post-consumer plastic packaging waste in 2023, exceeding the 20% target ☐
Social impact	• Behavioral changes • Public health & safety • Livelihood of vulnerable groups e.g., IWWs, low income communities	☐ ☐ ☐ Within the EPR law's Implementation Rules and Regulations (IRR), strategies and partnership with communities and the informal waste workers sector are recommended, but no data found for impact
Economic impact	• Cost of finished goods • Industry revenue • End of life recycling value	☐ No publicly available data found ☐ ☐

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Mandatory Extended Producer Responsibility (EPR)



BACKGROUND & RATIONALE

Drivers behind the policy: The need to shift the financial and physical burden of waste management from the government to producers and importers, aiming to combat rising pollution and promote a circular economy.

Problem the policy aims to address: The detrimental effects of plastic pollution due to increased consumption of packaging and generation of waste.

Policy Overview

Targeted sectors:

Wide range of applicable sectors including food, cosmetics, pharmaceutical, etc. that use SUP packaging.

Who it applies to:

Producers and importers of plastic products with revenue greater than VND 30 billion (USD 1.1 million).

Key provisions:

Clear phasing of targeted material types from 2024-2027, with recycling targets and cost per unit of weight adjusted triennially.

How it happened

Nov 2020

Policy was announced

Timeline introduced starting 2024

Law on Environmental Protection 2020 passed by Viet Nam's National Assembly, serving as the core legal basis for the EPR policy.

Jan 2022

Specific guidance for implementation were published

Amendment Decree 08/22/ND-PC applied clear mandatory recycling rates for individual products.

Jan 2024

EPR obligations came into effect for packaging

Policy came into effect, with recycling rate targets for individual product types ranging from 10% to 22%, with the maximum 22% being for rigid PET packaging.

Feb 2025

Detailed eco-modulated EPR fees published

Circular No. 07/2025/TT-BTNMT stated that all plastics carry a maximum fee of VND 9700 per kg which is multiplied by a different adjustment coefficient ranging from 0-1 depending on the type of plastic.

Enforcement tools and monitoring mechanisms:

- Mandatory reporting of volume of products and recycling results to assess compliance and impact.
- Periodic audits for validation and enforcement, with severe penalties including fines up to VND 2 billion, contract termination, etc.

Implementation challenges:

- Complexity and inconsistency in the online reporting portal as claimed by some businesses carry a risk of "free riders" who do not meet their obligations.
- Integrating Viet Nam's extensive informal waste sector into formal recycling collection systems.
- Still developing waste management and recycling facilities/infrastructure.

Outreach and awareness efforts:

Nationwide promotional campaigns, workshops and seminars with business associations, industry groups, provincial authorities, etc., and the support of local councils to assist in on-ground public engagement to increase separation at source (SAS).

Producer Responsibility Organizations (PROs)

Industry-led organizations like “PRO Viet Nam” act as a collective body to help member companies meet their EPR obligations. Manage large-scale recycling programs, engage with the government, and lead public awareness campaigns.

Formal recyclers

Licensed companies and facilities responsible for processing the waste materials collected under the EPR system.

Local councils

Assist in enforcement and public engagement, receive funds from EPR fees in VEPF to increase municipal recycling collection infrastructure, collection rates, etc.

Other supporting ministries

Ministry of Finance integrate tax and customs data with the EPR portal to help identify and monitor obligated parties. Ministry of Industry and Trade (MOIT) manage domestic market and trade, ensuring that the EPR regulations are practical and fair for businesses. Collaborated with MONRE on public consultations for the policy.

National EPR Council

Inter-sectoral body consisting of both government and private sector representatives established to assist MONRE in coordinating and supervising the implementation of the policy.

Ministry of National Resources and Environment (MONRE)

Enact the policy and issue legal documents to guide implementation, set recycling targets, etc. Manage the National EPR Electronic Information Portal. Oversees the Viet Nam Environment Protection Fund (VEPF).

Results, key impacts and learnings

Social Impact

Due to the recent implementation of the EPR scheme, no data could be found publicly available regarding the success of the scheme thus far.



Environmental Impact

Due to the recent implementation of the EPR scheme, no data could be found publicly available regarding the success of the scheme thus far.

Economic Impact

Due to the recent implementation of the EPR scheme, no data could be found publicly available regarding the success of the scheme thus far.

Key enablers of success:

- Establishing a central coordinating body that includes public and private sector representatives.
- Clear outline of roles and responsibilities.
- Phased implementation of policy
- Mandatory recycling rates for individual products.
- Detailed eco-modulated EPR fees for individual plastic product types.
- Mandatory reporting.
- Strong penalties for non-compliance.

Insights for other AMS:

- Clear guidelines, definitions, etc. should be set when drafting the EPR policy.
- Collaboration and integration with the private sector is needed for successful long-term implementation of the policy.
- EPR fees should be managed under a dedicated fund to develop waste management infrastructure.
- A phased approach in stages may ease implementation, and allow for information to be gathered before adding complexity (e.g., Eco-modulation).

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Checklist for Implementation

Organizational | Financial | Impact

Criteria	Indicator	Actions
Legal basis	• Law/regulation/decree	☑ Decree 08/2022/ND-PC
Implementation plan	• Policy guidelines including scope, timeline, obligated parties and products, exemptions, etc.	☑ Producers and importers > 30 billion VND (~1.16 million USD) responsible to manage waste of their products either by recycling or via contribution to EPR fund
Roles & responsibilities	• List of organizations for implementation, enforcement, monitoring, engagement, etc.	☑ MONRE; National EPR Council; Other supporting ministries; Local councils; Formal recyclers; producer responsibility organizations
Target setting	• Reduction in tons/% of SUP put on market, waste, etc. • Increase in recovery rate • Increase in recycling rate	☐ ☐ ☑ Mandatory recycling targets for plastic ranging from 10%-22%, e.g., 22% for rigid PET packaging
Capacity & staffing	• No. of monthly FTE hours for each role/expertise	☐ No publicly available data found
Enforcement & compliance	• No of producers registered • No. of audits carried out • No. of penalties issued	☐ ☐ ☐ No publicly available data found
Stakeholder engagement	• No. of relevant stakeholders consulted	☑ Capacity building sessions and consultations held with local authorities, NGOs, industry associations, etc.,
Up-front 'CAPEX'	• Amount in local currency	☐ No publicly available data found
Long-term 'OPEX'	• Amount in local currency	☐ No publicly available data found
Funding & revenue	• Amount in local currency	☐ No publicly available data found
Environmental impact	• Reduction in tons/% of SUP waste • Increase in recycling rate	☐ ☐ No publicly available data found
Social impact	• Behavioral changes • Public health & safety • Livelihood of vulnerable groups e.g., IWWs, low income communities	☐ ☐ ☐ No publicly available data found
Economic impact	• Cost of finished goods • Industry revenue • End of life recycling value	☐ ☐ ☐ No publicly available data found

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High **waste disposal fees** and **"polluter pays"** strategy

Date	Location
Since 1999	Singapore
Type	**Status**
Disposal (gate fee, landfill ban)	In force

BACKGROUND & RATIONALE

Drivers behind the policy: To use landfill prohibition and high tipping fees for final disposal at incinerator as a market lever to reduce overall waste generation and particularly waste-to-landfill by 30% per capital by 2030.

Problem the policy aims to address : The primary, overarching issue is critical land scarcity, as Singapore's only landfill is projected to reach full capacity by 2035.

Initiative Overview

Targeted sectors:

Commercial & Industrial (C&I), Construction & Infrastructure.

Who it applies to:

Nationwide non-residential waste generation.

Key features:

- High disposal fees at between SGD 90 – 126 (~USD 70 – 98) per ton.
- Mandatory incineration of combustible waste for all licensed collectors (effectively reserving landfilling only for incineration ash and non-combustible materials).

How it happened

1999

- Closing of all mainland landfills; disposal became significantly more complex and capital-intensive.

2012

- Start of periodic reviews of tipping fees to ensure full cost recovery of expensive Waste to Energy operations.
- ~SGD 77 (USD 60) per ton fee for incineration.

2018

- Fee for landfilling non-incinerable waste at off-shore Semakau Landfill raised to ~SGD 97 (USD 75)

2024

- Fees are raised to ~SGD 90 (USD 70) per ton for incineration and ~SGD 126 (USD 98) per ton for landfilling.

Operational tools and monitoring mechanisms:

- Integrated Waste Management Facility (IWMF): High disposal costs justify large planned investment in an IWMF, which maximizes resource recovery form waste including separation for recycling, food waste, and energy recovery from every ton of waste.
- E-Tracking Systems: For high-risk waste (like Hazardous Industrial Waste), an online e-tracking system monitors the movement from point of generation to the disposal site via "consignment notes".
- CCTV Surveillance: NEA deploys mobile CCTV cameras at known "hotspots" like secluded roads or industrial estates where illegal dumping is more likely to occur.
- Inspections: Rigorous weighbridge and visual inspections at the Tuas Marine Transfer Station and mandatory toxicity testing for industrial residues ensure that all combustible waste is removed.

Implementation challenges:

While high disposal fees indirectly incentivize recycling, they can also lead to "illegal dumping" in regions with less enforcement. Singapore counters this with strict surveillance and heavy fines – up to SGD 50,000 (~USD 39,000) fine for first conviction and SGD 100,000 (~USD 79,000) & mandatory jail (1-12 months) for subsequent convictions.

Outreach and awareness efforts:

- Stakeholder engagement: Disposal fees were discussed as part of 40+ consultations covering 250+ companies across the manufacturing, retail, and waste management sectors to draft the Resource Sustainability Act 2019.
- Mandatory Reporting Awareness: Since 2014, building managers of large hotels and malls have been engaged to report waste data.
- 3R funds & grants: To help companies offset the high cost of disposal, the government provides the 3R Fund which is used as a "carrot" in outreach.
- Various public campaigns including e.g., #RecycleRight campaign, Say YES to Waste Less, Clean & Green Singapore (CGS) to encourage behavior change to reduce waste generation.

Trade Associations & NGOs

Act as the bridge between the government's high-level goals and ground-level action, e.g., Waste Management and Recycling Association of Singapore (WMRAS), Zero Waste Singapore.

Waste Collectors (Public & Specialized/Industrial)

Primary companies appointed to handle waste collection across Singapore's designated sectors e.g., SembWaste (Sembcorp), Veolia ES Singapore, ECO Special Waste Management.

Keppel Seghers

MITSUBISHI HEAVY INDUSTRIES

Infrastructure & Facility Operators

Organizations that design, build and operate the facilities used for waste disposal such as WTE (e.g., Keppel Seghers / Mitsubishi Heavy Industries (MHI)).

National Environment Agency
Safeguard · Nurture · Cherish

National Environment Agency (NEA)

Agency under the Ministry of Sustainability and the Environment (MSE). Responsible for e.g., setting disposal fees and legislative standards, licensing all General Waste Collectors (GWCs) and managing the Semakau Landfill and Waste-to-Energy infrastructure.

Results, key impacts and learnings

Social Impact

- High fees and strict rules create a national consciousness regarding waste. The knowledge that "space is running out" (Semakau 2035) serves as a powerful social driver for recycling campaigns like #RecycleRight.



Environmental Impact

- Incineration reduces waste volume by 90%, with lower GHG emissions than landfilling without methane recovery.
- Non-domestic waste per billion SGD of GDP dropped from 35 to 23 tons from 2014-2024
- Consistent recycling rate of ~99% for Construction & Demolition waste.

Economic Impact

- Higher disposal floor price that make investments into other treatment technologies viable e.g., sorters, food digestors, recyclers, etc.

Key enablers of success:

- Sufficiently high tipping fees to achieve full cost recovery from WTE and landfilling operations, and incentivise investments into waste reduction and alternative recovery mechanisms like the IWMF, including recycling, food waste digestors, etc.
- Severe fines and penalties for non-compliance e.g., illegal dumping.
- Granular monitoring systems to measure waste data and identify non-compliance.

Insights for other AMS:

- Continually subsidising landfill tipping fees poses social, economic and environmental risks.
- Increasing the cost of landfilling and promoting/subsidising recovery mechanisms is likely more beneficial in the long term.
- However, AMS must ensure that monitoring and enforcement capacity is sufficient to prevent illegal dumping, which is already a prevalent regional issue.

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Checklist for Implementation

Organizational | Financial | Impact

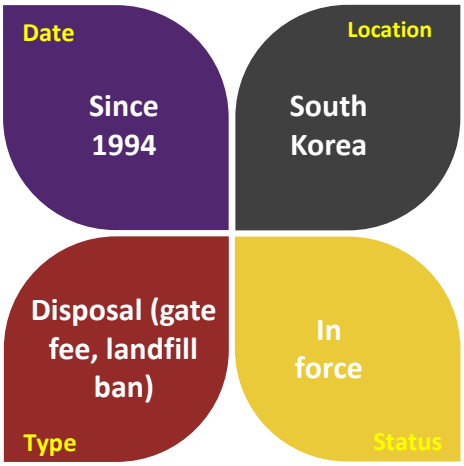
Criteria	Indicator	Actions
Legal basis	• Law/regulation/decree	☑ Guided by the Resource Sustainability Act 2019
Implementation plan	• Policy guidelines including scope, timeline, eligible parties and products, etc.	☑ Use high disposal costs and landfilling prohibitions as a market lever to reduce waste generation & waste to landfill, targets especially C&I and construction & infrastructure
Roles & responsibilities	• List of organizations for implementation, enforcement, monitoring, engagement, etc.	☑ NEA, Waste collectors, Infrastructure & facility operators, Trade Associations & NGOs
Target setting	• Reduction in tons/% of SUP waste • Increase in recycling rate	☑ Reduce waste-to-landfill by 30% per capita by 2030 ☑ 70% recycling rate by 2030 81% C&I recycling rate by 2030 30% Domestic recycling rate by 2030
Capacity & staffing	• No. of monthly FTE hours for each role/expertise	☐ No publicly available data found
Enforcement & compliance	• No. of product verifications carried out	☐ No publicly available data found
Stakeholder engagement	• No. of relevant stakeholders consulted	☑ Discussed as part of 40+ consultations covering 250+ companies across key sectors
Up-front 'CAPEX'	• Amount in local currency	☐ No publicly available data found
Long-term 'OPEX'	• Amount in local currency	☐ No publicly available data found
Funding & revenue	• Amount in local currency	☐ No publicly available data found
Environmental impact	• Reduction in tons/% of SUP waste or consumption • Increase in recycling rate	☑ Non-domestic waste per billion dollars of GDP dropped from 35 to 23 tons ☑ Consistent recycling rate of ~99% for Construction & Demolition waste
Social impact	• Behavioral changes • Public health & safety • Livelihood of vulnerable groups e.g., IWWs, low income communities	☑ High fees and strict rules create a national consciousness regarding waste. ☐ ☐
Economic impact	• Waste management cost • End of life recycling value	☐ ☑ Higher tipping fees have created a floor price that make investments into other treatment technologies viable e.g., sorters, food digestors, recyclers, etc.

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A **national** **“Volume-Based Waste Fee”** system



BACKGROUND & RATIONALE

Drivers behind the policy: South Korea faced several issues with waste management in the 1980s – with an average increase in waste generation rate of ~8% annually from 1981-1990, alongside limited areas for landfills and incineration sites due to citizens’ opposition.

Problem the policy aims to address: Management of waste without use of landfill. Initial “flat-fee” for disposal charges provided no diversion incentives, and recycling lacked a formal infrastructure.

Policy Overview

Targeted sectors:

Residential and Commercial.

Who it applies to:

Households and small businesses that generate waste similar in nature to municipal solid waste.

Key provisions:

- Legal mandate for the polluter-pays principle.
- Collection of non-recyclable waste only in government-designated and standardized bags, which carry the cost of waste collection and disposal.
- Price and type of bag is determined by municipalities. As of 2025, a 20-liter disposal bag ranges from KRW 440 (~USD 0.3) to KRW 820 (~USD 0.6).

How it happened

1992

Feasibility Study

The study was carried out by the Korea Society of Waste Management to verify the usefulness of the system.

1994

Pilot Project

The pilots took place in 33 districts across commercial areas, detached housing areas and high-density apartment complexes and resulted in 40% reduction of total waste.

1995

Nationwide Implementation

The system was in effect in all municipalities beginning January 1995. Waste collection fee was replaced with the price of waste bags and recyclables are separated.

2014

Achieved 99% Participation Rate

South Korea saw a 99% participation rate of the program.

Enforcement tools and monitoring mechanisms:

- Legislative amendments including the Waste Management Act on the enforcement of the system, district ordinances on type of waste and regulation of disposal bags, and plastic product standards for disposal bags.
- Cooperation with civic groups to monitor disposal sites and report illegal behavior.
- The use of standardised bags to monitor the volume of waste.

Implementation challenges:

- Challenging perceptions of waste separation as inconvenient.
- Determining a suitable price for disposal bags.
- Illegal dumping to avoid purchase of bags.
- Counterfeiting of disposal bags.

Outreach and awareness efforts:

- The Ministry of Environment engaged various groups, including waste management experts, waste management companies, consumer groups, housewives' association, waste bag manufacturers and local government officials through public hearings and consultation sessions.
- The Ministry converted environmental critics to supporters by asking them to monitor and assess pilot tests after the feasibility study.

Autonomous Gu-Districts (Municipalities)

Primary implementers of the policy. They authorize sale of bags, determine specific fee levels and manage local enforcement through ordinances.

Korea Society of Waste Management

Conduct feasibility studies through surveys and research.

Korea Environment Corporation

Responsible for technical support e.g., for the recycling industry.

K-eco

Participation of Civic Groups

Civic Groups such as YMCA, YWCA, Korean Federation of Housewives, Korean Federation for Environmental Movement, Citizen Society for Solving Waste Problems raise awareness of the policy and participate in policy design, implementation, monitoring and evaluation.

Ministry of Environment

Ministry of Environment

The Ministry is responsible for setting national policy and standards for disposal bags.

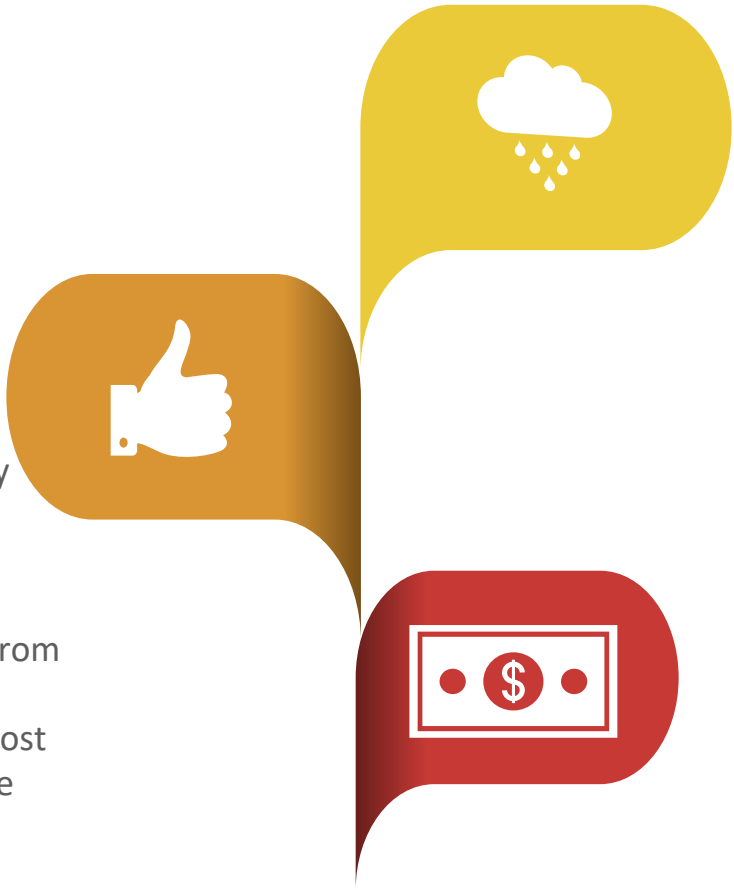
Results, key impacts and learnings

Social Impact

Two decades after the policy, 42% of South Koreans find recycling not bothersome, and 23.1% find recycling not bothersome at all.

Increase in price of disposal bags positively correlated with higher recycling rates.

Anecdotal challenges from the elderly to separate waste, and increased cost of living for low-income communities



Environmental Impact

Daily waste generation per capita dropped from 1.33kg in 1994 to 0.94kg in 2013, and recycling rates increased from 15.4% to 59% in the same timeframe. This recycling rate has been maintained ~ constant until now, despite overall waste generation increasing up to 1.2kg per capita as of 2024.

Economic Impact

The total cumulative economic generation from the policy from 1994 to 2013 amounted to ~ KRW 21.4 trillion (~USD 15 billion

Key enablers of success:

- Engagement with civic groups.
- Enabling institutions by providing more organization, manpower and budget.
- Decentralization of government to give municipalities more autonomy.
- Coordination with stakeholders like recycling businesses by providing support to revitalise the industry.

Insights for other AMS:

- Disposal policies are effective in increasing diversion of waste to recovery and recycling, but recycling rates may stagnate after a period due to non-recyclable waste.
- Therefore, disposal policies may need to be supported with disincentives, bans or deposit systems.
- Recycling rates may improve with an increase in the price of disposal bags, but it may lead to the rise of illegal dumping.

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Checklist for Implementation

Organizational requirements | Financial modelling | Impact assessment

Criteria	Indicator	Actions
Legal basis	• Law/regulation/decree	☑ Act on the Promotion of Saving and Recycling of Resources
Implementation plan	• Policy guidelines including scope, timeline, obligated parties, exemptions, etc.	☑ Autonomy of local authority to implement the policy. Standardization of waste bags through criminalization of counterfeit bags.
Roles & responsibilities	• List of organizations for implementation, enforcement, monitoring, engagement, etc.	☑ Ministry of Environment, Korea Environment Corporation, local authorities, recycling industries, civil organizations
Target setting	• Reduction in tons/% of SUP put on market, imported, waste, etc.	☐ No numerical targets set, but aimed to fundamentally reduce the total amount of waste generated at source.
Capacity & staffing	• No. of monthly FTE hours for each role/expertise	☐ No publicly available data. Increase in infrastructure of recycling industry.
Enforcement & compliance	• No. of monthly inspections • No. of penalties issued	☐ ☐ No binding minimum, but there are penalties for illegal dumping and counterfeiting.
Stakeholder engagement	• No. of relevant stakeholders consulted	☑ Industry, civil organization, households
Up-front 'CAPEX'	• Amount in local currency	☐ No publicly available data found
Long-term 'OPEX'	• Amount in local currency	☐ No publicly available data found
Funding & revenue	• Amount in local currency	☑ Revenue from waste bag sales cover operational waste management costs
Environmental impact	• Reduction in tons/% of SUP put on market, imported, waste, etc.	☑ Decrease in waste generated, increase in waste separation and increase in recycling rates
Social impact	• Behavioral changes • Public health & safety • Livelihood of vulnerable groups e.g., IWWs, low income communities	☑ ☐ ☐ Increase in perception of easiness of recycling.
Economic impact	• Cost of finished goods • Industry revenue • End of life recycling value	☐ ☑ ☐ Increase in revenue for municipalities from sale of bags. Value generation due to increase in recycling.

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A **voluntary** **single-use Deposit Refund Scheme** pilot

Date
Since 2022

Location
Sejong City & Jeju Island, South Korea

Type
DRS

Status
In Force

BACKGROUND & RATIONALE

Drivers behind the policy:
The consumption of disposable cups surged significantly during the COVID-19 pandemic, with the number reaching 1.02 billion cups in 2021 at major cafe chains and fast-food brands - a five-year high and a substantial increase from 770 million in 2019.

Problem the policy aims to address:
South Korea's worsening disposable cup problem, driven by low recycling rates, massive waste generation, and entrenched post-pandemic consumption habits.

Policy Overview

Targeted sectors:

Food & Beverage.

Who it applies to:

Franchise cafes, bakeries, and fast-food franchises with more than 100 branches.

Key provisions:

A KRW 300 (~USD 0.23) deposit is charged for each disposable cup which is eligible for a refund upon return of the used cup. The cups are then sent to specialised recyclers. Ministry of Environment subsidised extra expenses needed for rollout including:

- Labels - KRW 6.99 (USD 0.005)/piece
- Credit card fees for deposit - KRW 3 (USD 0.002)/cup
- Processing fees for returning cups – KRW 4 (USD 0.003)/cup
- Label dispensers and reverse vending machines (amount unclear)

How it happened

2020

Initial announcement of a mandatory disposable cup deposit program by the Korean Ministry of Environment.

2022

- The deposit-refund scheme, initially planned for nationwide rollout, was postponed after strong protests from cafe and restaurant operators.
- In response, the Environment Ministry scaled back the plan to a pilot program, limiting implementation to Sejong and Jeju starting December 2.

2023

Ministry announced it was devolving decision-making authority to regional governments, therefore making the policy voluntary for municipalities

2024

The system continued with declining return rates and participating stores.

Enforcement tools and monitoring mechanisms:

- The Ministry of Environment mandates franchise participation and oversees COSMO's deposit-management platform.
- Barcode-scanning systems track cup returns and generate compliance reports for each outlet.
- Fines and penalties for failing to charge the deposit, accept returns or for non-compliant cups.

Implementation challenges:

- The nationwide implementation was postponed by six months amid protests from cafe and restaurant operators on the mandatory surcharge, citing operational costs and logistical burdens.
- Limited return infrastructure required rapid installation of in-store scanners and off-site collection points.
- The ministry did not develop a nationwide plan to extend the system beyond the pilot regions.

Outreach and awareness efforts:

- Jeju provincial government and the Ministry of Environment launched public information campaigns at government complexes, community centers, and tourist sites.
- A Resource Recirculation app provides real-time return location maps and deposit-tracking features.

COSMO

Deposit management platform which is overseen by Ministry of Environment.

Environmental Groups

Green Korea United and Korea Federation for Environmental Movements advocated for the policy,

Ministry of Environment

Policy design and implementation oversight.

환경부

Sejong City government

Local administration and enforcement.

Results, key impacts and learnings

Social Impact

Strong public support for environmental action prior to implementation.

App-based deposit system improved convenience and empowered consumers to participate actively.

Ministry officials acknowledged that the deposit system requires "inconvenience of customers at a certain level".



Environmental Impact

From December 2022 to August 2023, Jeju and Sejong's pilots successfully recovered 3.14 million cups, with return rates peaking at 45% in Jeju and 64% in Sejong respectively.

However, once the system was made voluntary in late 2023, half of the stores had dropped out of the scheme by January 2024.

Economic Impact

The initial nationwide postponement was driven by industry concerns about implementation costs and operational complexity.

Key enablers of success:

- Starting with two regions rather than nationwide implementation allowed for testing and adjustment.
- Adequate deposit level –KRW 300 (USD 0.20) to motivate returns.
- Robust infrastructure with in-store scanners and 40+ off-site return points.
- Mobile app integration for seamless user experience.

Insights for other AMS:

- Setting sufficient deposit, leveraging digital tools for tracking, and establishing convenient return points ease implementation.
- Early engagement with major franchise operators and public awareness campaigns ensure stakeholder buy-in and expansion.
- Strong government commitment, a clear nationwide roadmap and self-sufficient financial models with only minor subsidies may be needed to ensure lasting success.

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Checklist for Implementation

Organizational | Financial | Impact

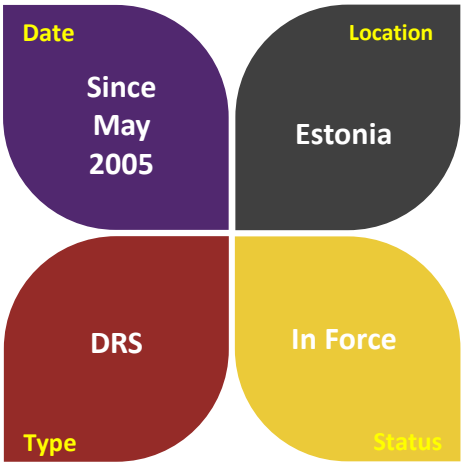
Criteria	Indicator	Actions
Legal basis	• Law/regulation/decree	☑ Act on the Promotion of Saving and Recycling of Resources
Implementation plan	• Policy guidelines including scope, timeline, obligated parties & products, exemptions, etc.	☑ Beverage-selling chains in Sejong and Jeju with >100 nationwide branches charge a deposit on disposable cups (scope), which is refunded to the consumer (obligated party) upon return
Roles & responsibilities	• List of organizations for implementation, enforcement, monitoring, engagement, etc.	☑ Sejong City Government; Ministry of Environment; COSMO; environmental groups
Target setting	• Reduction in tons/% of SUP put on market, waste, etc. • Increase in recovery rate • Increase in recycling rate	☐ ☐ ☐ No publicly available data found
Capacity & staffing	• No. of monthly FTE hours for each role/expertise	☐ No publicly available data found
Enforcement & compliance	• No of producers registered • No. of audits carried out • No. of penalties issued	☐ ☐ ☐ LINE app mechanism in place to monitor containers. Fines and penalties in place but no data found on how many/much issued.
Stakeholder engagement	• No. of relevant stakeholders consulted	☑ Consultations with municipalities, delivery companies and users i.e., restaurants, food trucks, etc.
Up-front 'CAPEX'	• Amount in local currency	☐ Large upfront capital quoted to set up reverse vending machines, etc., but no data found for numbers.
Long-term 'OPEX'	• Amount in local currency	☐ No publicly available data found
Funding & revenue	• Amount in local currency	☑ Total OPEX subsidy provided by ministry is KRW 14.00 (~USD 0.01) per cup, ~10% of a plastic cup's value
Environmental impact	• Reduction in tons/% of SUP waste • Increase in recycling rate	☑ ☑ Between 2022 and 2023, ~3.14 million cups returned in Jeju and Sejong, with return rate improving from 36% to 45% and 40 to 64% respectively.
Social impact	• Behavioral changes • Public health & safety • Livelihood of vulnerable groups e.g., IWWs, low income communities	☑ ☐ ☐ Kaman survey showed that 81% of consumers felt guilty about the waste from take-out. Nakano Central Park experiment with 443 daily patrons, indicated ~1/3 would choose to use the DRS
Economic impact	• Cost of finished goods • Industry revenue • End of life recycling value	☐ ☐ ☐ No publicly available data found

Start again

Return to Policy page



A **mandatory** single-use Deposit Refund Scheme

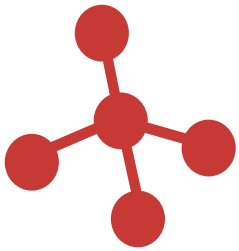


BACKGROUND & RATIONALE

Drivers behind the policy:
Meeting EU Packaging Directive requirements, preserving the refillable bottle system, improving low environmental awareness, and building on strong public familiarity with deposit-return practices from the Soviet era.

Problem the policy aims to address:
An ineffective 1994 take-back system (not DRS) with no mandatory take-back obligations, weak monitoring and poor rural coverage. Widespread littering and insufficient recycling needed to protect natural resources and keep Estonia's environment clean.

Policy Overview







Targeted sectors:

F&B users of single use beverage containers:
- Plastic (PET) bottles
- Metal cans
- Glass bottles

for beverages **such as water, soft drinks, beer and low-alcohol beverages.**

Who it applies to:

Producers and importers of beverages and retailers selling deposit-bearing products. Retailers with stores ≥200 m² must provide return services. Urban outlets under 20 m² are exempt and stores 20–199 m² may apply for a municipal exemption. No deposit applies to packaging ≥3.0 L or ≤0.1 L. High-alcohol beverages are excluded by default (voluntary participation possible since 2021).

Key provisions:

A uniform EUR 0.10 (~USD 0.12) deposit for all single-use containers. Must be shown on shelf labels and receipts. All containers must display a deposit emblem with material, volume, and value.

Deposit values set by Ministry, with legal minimum of EUR 0.03 (~USD 0.04) excluding collection and handling costs, which are covered by producer fees.

How it happened

2004

Legislation enacted

2005

In March, the system operator, known as Eesti Pandipakend (EPP) was accredited by the Ministry of Environment.
On 1st May, the system started into implementation.

2013

After 8 years of operation EPP had a new handling center, which helped optimise several activities. Previously, packaging was sorted manually by hand. This new center had a sorting line and modern processers, which compressed twice the amount of beverage containers

2021

Amendment to allow producers of some low and strong alcohols and syrups to voluntarily join the DRS.

Enforcement tools and monitoring mechanisms:

- Compliance is monitored by the Environmental Board, Tax and Customs Board, Consumer Protection Authority, and local governments, all empowered to inspect businesses and enforce EU-aligned market-surveillance rules.
- Authorities may apply special supervisory measures, require company-funded audits, and impose non-compliance levies.
- Failure to meet recovery or return obligations can lead to fines of up to EUR 300 (~USD 356) for individuals and EUR 200,000 (~USD 237,000) for legal persons, while record-keeping violations can reach EUR 100,000 (~USD 119,000) for companies.
- If recovery targets are not met, a **packaging excise tax** applies by material type.

Implementation challenges:

- Single-use containers are more prone to cross-border fraud, barcode manipulation, and return-side abuse. Estonia had to develop advanced technology.
- Cross-border tourism may be influencing coastal littering and decrease the effectiveness of the DRS in littering reduction.

Outreach and awareness efforts:

- Major upgrades to the Eesti Pandipakend, Panditops, and retailer self-service websites improved user experience, access to real-time recycling data, and operational efficiency.
- A large Russian-language engagement campaign (radio, social media, influencers, quizzes, photo contests, articles) and the nationwide “Rebirth” recycling awareness campaign broadened reach and reinforced positive return behaviors.
- Extensive school visits, environmental education performances in kindergartens, and long-running charity-linked cultural programs helped cultivate early environmental awareness and maintain high public trust and participation in the deposit system.

Eesti Pandipakend

Producer responsibility organization (non-profit) accredited by Ministry of Environment

Stores and HORECA collection points

For collection of beverage bottles.

Local government/municipality

Local administration and supervision over acceptance of packaging waste

Environmental Board under the Ministry of Climate (previously named Ministry of Environment)

Policy design and implementation oversight

The Tax and Customs Board,& The consumer protection and technical regulatory authority

Compliance and supervisory duties

Results, key impacts and learnings

Social Impact

Equity/distributional impacts (e.g., income from deposit collection by vulnerable groups) are plausible but not well documented.

Eesti Pandipakend described an “Aitan Lapsi” donation button on RVMs; it reported ~EUR 1.8 million donated over time and 235,000+ children supported through cultural experiences.



Environmental Impact

Beverage containers declined from ~80% of roadside litter to ~10%. Estonian State Forest Administration also reported a reduction in littered bottles in forests

~9 out 10 bottles/cans with deposit marks end up back in circulation, reducing raw material usage.

Economic Impact

While revenue figures and usage distinctions are unavailable, the 15.5K tons of collected packaging sent for recycling is likely to yield income, especially for high-value materials.

Key enablers of success:

- Mandatory system, ensuring enforcement, broad participation, and rural coverage
- Non-profit principal for PRO.
- Sufficient and accessible return points.
- A sophisticated IT system.
- Constant public awareness building.
- Legislated economic consequences, where failure to meet recovery goals results in increased excise duties.

Insights for other AMS:

- Voluntary, market-driven take-back schemes without deposits, universal coverage, and strong monitoring may fail to drive behavioral change and high recovery
- Clear assignment of operational responsibility to a single system operator, combined with regulatory oversight, may be critical for effective implementation and monitoring.
- Public familiarity reduces behavioral barriers and supports rapid acceptance

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Image created using Gemini

Checklist for Implementation

Organizational | Financial | Impact

Criteria	Indicator	Actions
Legal basis	• Law/regulation/decree	☑ Packaging Act and Packaging Excise Act
Implementation plan	• Policy guidelines including scope, timeline, obligated parties & products, exemptions, etc.	☑ Producers and importers of beverages and retailers selling deposit-bearing products. Mandatory for retailers with stores ≥200 m², EUR 0.10 (~USD 0.12) deposit, etc.
Roles & responsibilities	• List of organizations for implementation, enforcement, monitoring, engagement, etc.	☑ Tax and Customs Board, Environmental Board under the Ministry of Climate, Eesti Pandipakend, Local governments/municipalities, stores, etc.
Target setting	• Reduction in tons/% of SUP put on market, waste, etc. • Increase in recovery rate • Increase in recycling rate	☐ ☑ ☑ Recovery & recycling targets for plastic as per EU's Single-Use Plastics Directive (SUPD) and the newly adopted Packaging and Packaging Waste Regulation (PPWR)
Capacity & staffing	• No. of monthly FTE hours for each role/expertise	☐ No publicly available data found
Enforcement & compliance	• No of producers registered • No. of audits carried out • No. of penalties issued	☐ ☐ ☐ No. of producers that joined EPP is provided, however, total number of producers registered is unknown.
Stakeholder engagement	• No. of relevant stakeholders consulted	☐ No publicly available information found. Although, the EPP's ownership is split between producers and retailors
Up-front 'CAPEX'	• Amount in local currency	☐ No publicly available data found
Long-term 'OPEX'	• Amount in local currency	☑ Partial data in EPP's financial statements and from overview of EPP's activities
Funding & revenue	• Amount in local currency	☑ EPP's website provides yearly overview
Environmental impact	• Reduction in tons/% of SUP waste • Increase in recycling rate	☑ ☑ 6.2 billion containers collected and recycled in total. Steady increase in return rate ~ 89% in 2023. Roadside beverage-container litter fell from 80% to below 10%
Social impact	• Behavioral changes • Public health & safety • Livelihood of vulnerable groups e.g., IWWs, low income communities	☐ ☐ ☑ EUR 1.8 million donated over time and 235,000+ children supported
Economic impact	• Cost of finished goods • Industry revenue • End of life recycling value	☐ No publicly available data found

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A **voluntary, private sector led multi-use Deposit Refund Scheme**

Date Since 2021	**Location** Japan
Type DRS (multi-use)	**Status** In force

BACKGROUND & RATIONALE

Drivers behind Megloo's initiative: To establish a circular system of reusable containers to cut down on plastic waste. Its mission is rooted in strong consumer awareness - a Kaman survey showed 81% of people feel guilty about waste from takeout.

Problem Megloo aims to address: Targeting the key barrier of cost and convenience, offering a reusable container system designed to be both price-competitive and user-friendly, with the goal of making sustainable choices as easy and attractive as single-use options.

Initiative Overview

Targeted sectors:

Food service, delivery service, events and stadiums.

Who it applies to:

The reuse model started in the city of Kamakura to tackle single-use plastic waste, and has now been piloted in Shibuya and Yokohama, and at various large events.

It targets users of co-working spaces, takeout & delivery consumers and event attendees.

Key provisions:

- Containers: lightweight, microwave-safe, leakproof, reusable 100+ times.
- Borrowing system: QR code via LINE app.
- Return process: restaurants or designated points; tracked digitally.
- Cleaning: partner facilities.

How it happened

2021

Kaman launched its Megloo Re-use containers sharing service.

2022

- Megloo was one of 11 winners from the Japan edition of the End Plastic Waste Innovation Platform programme.
- Kaman clinched the Excellence Award at Marui Group's third "Co-Creation Pitch".

2023

- Shibuya trial with five food trucks and delivery partners.
- Megloo's containers have been used more than 3,100 times during this pilot period.
- Five-day experiment conducted in Nakano Central Park from July 24 to July 28, with 35 food trucks serving an average of 443 patrons daily.

2024-2025

Expands to more sports venues (Shonan Belmare, FC Tokyo, Ventforet Kofu) and events (Zero Waste Festival).

Operational tools and monitoring mechanisms:

- Technology upgrade: RFID-based smart bins to replace QR codes, enabling automatic container registration; trial in 2Q 2024.
- Data tracking: LINE app records container borrowing, usage, and location.
- Hygiene: Customers rinse containers; Megloo collects and restaurants perform thorough cleaning.

Implementation challenges:

- QR code scanning twice at high-traffic events caused delays and long queues.
- Coordination needed among restaurants, collection points, cleaning facilities, and logistics operators; system improvements based on feedback.
- Expanding return points requires partnerships with property owners and municipalities.
- High upfront investment and complex operations needed for container sharing and cleaning.

Outreach and awareness efforts:

- Partnered with 14 stores offering free delivery within 2 km during trial.
- Map of participating stores, food trucks, and return points; updates via Megloo's Instagram.
- Partnerships with Marui Group (cleaning facilities), sports teams, and festivals.
- Campaigns like Earth Day Tokyo, regional reuse forums, and local media features to drive visibility.

Operator

Cafés, restaurants, food trucks, and delivery platforms (Wolt).

Municipalities

Kamakura, Shibuya and Nakano Ward.

Funding and Support Organization

The Alliance to End Plastic Waste provided funding and support through its incubation programme.

Corporates Partners

Mitsui Chemical, Kirin Holdings, Marui Group, Lawson, Tokyo Tatemono.

Results, key impacts and learnings

Social Impact

Anecdotal evidence suggests a "largely positive reception" from municipal governments, business associations, private enterprises, and consumers, which can be quantified through official endorsements, partnership agreements, and reported feedback.



Environmental Impact

- Kaman planned to avoid the use of an estimated 50 tons of virgin plastics by 2025.
- Each container can be used more than 100 times.
- 90% CO_2 reduction per container over 100 uses versus disposables.
- Between November 2022 to May 2023, Megloo's containers have been used more than 3,100 times.

Economic Impact

Large upfront capital required to set up and continuously improve the system efficiency.

Key enablers of success:

- Megloo uses the LINE app and plans RFID for automated tracking.
- Partnerships with major corporations boost credibility and access.
- Municipalities support integration into zero-waste programs.
- Funding and recognition come from Alliance to End Plastic Waste and innovation platforms.

Insights for other AMS:

- Leveraging existing digital platforms and starting hyper-locally, with pilots in high-traffic venues may make it easier to start a multi-use DRS.
- Success relies on multi-stakeholder partnerships and aligning with municipal zero-waste initiatives for support and visibility.
- Continuous innovation and use of existing cleaning infrastructure reduce costs.

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Checklist for Implementation

Organizational | Financial | Impact

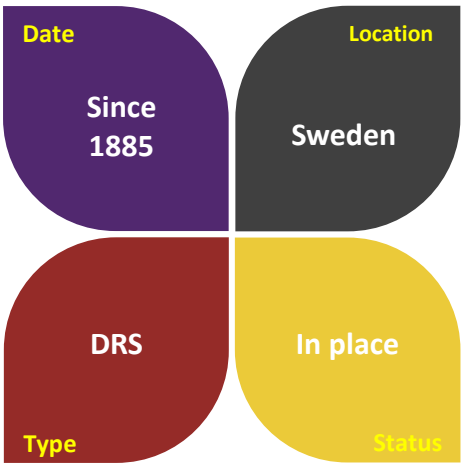
Criteria	Indicator	Actions
Legal basis	• Law/regulation/decree	☐ Not applicable (Private-sector initiative)
Implementation plan	• Policy guidelines including scope, timeline, obligated parties & products, exemptions, etc.	☑ Implemented in Kamakura, phased expansion. Replaces single-use takeaway packaging with DRS PP containers. cleaned, and can be reused up to 100 times
Roles & responsibilities	• List of organizations for implementation, enforcement, monitoring, engagement, etc.	☑ Mitsui Chemical, Kirin Holdings, Marui Group, Lawson, Tokyo Tatemono; Alliance to End Plastic Waste; Wolt; Municipalities
Target setting	• Reduction in tons/% of SUP put on market, waste, etc. • Adoption rate of DRS	☑ Avoid the use of 50 tons of virgin plastic by 2025 ☐
Capacity & staffing	• No. of monthly FTE hours for each role/expertise	☐ No publicly available data found
Enforcement & compliance	• No of producers registered • No. of audits carried out • No. of penalties issued	☐ ☐ ☐ No data on compliance found, but LINE app mechanism in place to monitor containers
Stakeholder engagement	• No. of relevant stakeholders consulted	☑ Consultations with franchises, business owners, environmental organizations, consumers, local governments
Up-front 'CAPEX'	• Amount in local currency	☐ No publicly available data found
Long-term 'OPEX'	• Amount in local currency	☐ No publicly available data found
Funding & revenue	• Amount in local currency	☐ No publicly available data found
Environmental impact	• Reduction in tons/% of SUP usage and waste	☑ During pilot phase between November 2022 to May 2023, Megloo's containers were used more than 3,100 times
Social impact	• Behavioral changes • Public health & safety • Livelihood of vulnerable groups e.g., IWWs, low income communities	☑ ☐ ☐ Kaman survey showed that 81% of consumers felt guilty about the waste from take-out. Nakano Central Park experiment with 443 daily patrons, indicated ~1/3 would choose to use the DRS
Economic impact	• Industry revenue (due to increased cost of reverse logistics, return mechanism, etc)	☐ ☐ ☐ No publicly available data found

Start again

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A **voluntary** multi-use Deposit Refund Scheme

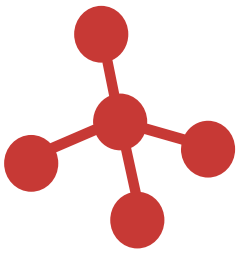


BACKGROUND & RATIONALE

Drivers behind the initiative:
Hand-blown glass bottles were too expensive to be treated as single-use items, and breweries needed to lower entry barriers and optimize transport logistics to ensure trucks did not travel empty.

Problem the initiative aims to address:
High packaging and replacement costs. Inefficient sorting and brewery-specific bottle systems. Barriers to entry for smaller or new breweries. Logistical complexity in collection, washing, and refilling.

Initiative Overview







Targeted sectors:

Beverage industry (primarily beer and carbonated soft drinks).

Who it applies to:

Breweries, Systembolaget (alcohol retail monopoly), and Grocery Retailers who want to be part of voluntary reuse systems and avoid using single use bottles as packaging, thus be exempted from the EPR system.

33 & 50 cl standardized brown glass bottles used primarily for industrial beer brands.

Key provisions:

Operates alongside, but is distinct from, the national EPR system.

Operated by Sveriges Bryggerier through Svenska Returglas 33 cl AB (returned in red crates) and 50 cl AB (returned in blue crates).

How it happened

1885-1886

- 1885: The Swedish Brewers Association (Sveriges Bryggerier) was formed to create a common packaging pool.
- 1886: Introduction of the "Stockholm bottle" (Knoppflaska), the first standardized 33cl returnable bottle.

1930-1979

- 1930s: The system is fully mechanized; machine blowing replaces hand-blowing and crown caps replace corks.
- 1955: The steel beer can is introduced to the Swedish market, challenging the refillable monopoly.
- 1959: The single-use glass bottle is introduced.
- 1979: Market share of refillable glass drops to 46% due to the rise of convenience packaging.

1984-1995

- 1984: Sweden becomes the first country in Europe to legislate a mandatory deposit on aluminium cans, establishing Returpack.
- 1994: Standardised 50 cl bottle was introduced; Deposit system expanded to include PET bottles.
- 1995: Sweden joined the EU; State monopoly on alcohol imports (biggest supplier - Vin & Sprit) ends, leading to the collapse of the standardized reuse system for wine bottles due to the influx of non-standard foreign glass.

2025

- The deposit on glass bottles increased to SEK 3 (~USD 0.34).
- New deposit symbol launched clearly indicating the deposit value.

Enforcement tools and monitoring mechanisms:

- If the system underperforms, the legal response is not enforcement, but adjustment or potential phase-out, as has happened historically in some segments.
- Low return rates (≈15% in consumer retail channels) are being addressed through: Higher deposits, Clearer markings, Retailer and Liquor stores (Systembolaget) communication.

Implementation challenges:

- While a multi-use DRS exists, it has failed to recover the market dominance lost to free-market shifts (e.g., the rise of convenience packaging and the end of import monopolies). Consequently, multi-use glass currently represents a significant but non-dominant portion of the overall beverage market.
- The reuse system for wines and spirits collapsed because the end of Vin & Sprit's import monopoly fragmented the market into hundreds of importers who had no incentive or willingness to participate in a shared return-bottle system. Another reason was consumer preferences.
- The primary driver for the sharp increase in deposit was the critically low return rate for bottles sold in retail and at Systembolaget, which had dropped to around 15% (compared to near 100% in the restaurant sector). The previous deposit value was too low to incentivize consumers to carry heavy glass back to stores, leading many to throw them in standard glass recycling igloos instead.

Outreach and awareness efforts:

- Clear bottle symbols, updated in 2025 to show the SEK 3 (~USD 0.34) deposit, and shelf-edge labels guide consumers at purchase and use.
- Seasonal public campaigns highlight bottle shortages before peak holidays, triggering return spikes and avoiding new glass production.
- Systembolaget and grocery retailers provide clear in-store guidance - through shelf labels, signage, webpages, and reverse vending machine feedback - showing that refillable glass carries a deposit and must be returned to stores (not recycling bins).

Sveriges Bryggerier (The Swedish Brewers Association)

Industry governance and ownership. Manages the system through the operational companies (Svensk Returglas 33 cl AB and 50 cl AB) own the bottle pool and manage flows, replacements, and system finances.

Collection network of: Systembolaget, Grocery Retailers, HORECA

Systembolaget stores serve as primary return points for glass, handling significant volumes of the 50cl refillable bottles. Grocery chains host the RVM infrastructure. HORECA: Has full return rate.

The Swedish Environmental Protection Agency (Naturvårdsverket)

All the Producers need to register with the agency, so, producers who are not part of the multi-use DRS system (as described here), becomes obliged in the EPR system due to the single use nature of their packaging. It monitors the EPR system for packaging.

Results, key impacts and learnings

Social Impact

No documented social impacts specific to the glass DRS were identified.



Environmental Impact

Refillable bottles dramatically reduce the energy and material footprint per unit if bottles are returned at scale, although actual achieved returns (15% in retail) are far below full reuse potential.

Economic Impact

Collection, transport, and sterilization costs make refillable systems impractical for many micro-breweries, which therefore rely on one-way packaging.

Key enablers of success:

- Early standardisation of bottle formats and a shared packaging pool reduced costs and enabled large-scale reuse across breweries.
- A nationwide deposit system with high consumer participation ensured high return rates and stable collection.
- Participation in the reuse system exempts producer from paying EPR fees, thereby, increasing the incentive to use multi-use.

Insights for other AMS:

- Reuse systems are highly sensitive to transport distances and logistics costs; refillable packaging is unlikely to be viable where distribution networks are long or fragmented.
- Even in high-performing DRS contexts, reuse can lose market share to lighter and more convenient materials if cost efficiency is favored.
- Deposit systems can support reuse, but they do not guarantee its long-term viability without favorable economic and logistical conditions.

Sources

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Checklist for Implementation

Organizational | Financial | Impact

Criteria	Indicator	Actions
Legal basis	• Law/regulation/decree	☐ Not applicable (Private-sector initiative)
Implementation plan	• Policy guidelines including scope, timeline, obligated parties & products, exemptions, etc.	☑ Information on scope and obliged parties are clearly provided by the system.
Roles & responsibilities	• List of organizations for implementation, enforcement, monitoring, engagement, etc.	☑ The Swedish Environmental Protection Agency (Naturvårdsverket), Systembolaget, Grocery Retailers, HORECA, Sveriges Bryggerier
Target setting	• Reduction in tons/% of SUP put on market, waste, etc. • Increase in recovery rate • Increase in recycling rate	☐ Sweden has recycling targets under its DRS and EPR based packaging schemes. Since DRS glass bottles are ☑ refilled, they are treated as reuse rather than waste ☑ and do not fall under these targets. General DRS efficiency is at almost 90%, including single use.
Capacity & staffing	• No. of monthly FTE hours for each role/expertise	☐ No publicly available data found
Enforcement & compliance	• No of producers registered • No. of audits carried out • No. of penalties issued	☐ No publicly available data found. ☐ ☐
Stakeholder engagement	• No. of relevant stakeholders consulted	☐ No publicly available information found.
Up-front 'CAPEX'	• Amount in local currency	☐ No data found for glass DRS specifically, but overall investments in packaging return infrastructure estimated SEK 3 billion SEK (~USD 328.71 million), with glass DRS having a share of 2.5%
Long-term 'OPEX'	• Amount in local currency	☐ No publicly available data found.
Funding & revenue	• Amount in local currency	☐ No publicly available data found, however Returpack is jointly run by beverage producers and the retail sector on a non-profit basis
Environmental impact	• Reduction in tons/% of SUP waste • Increase in recycling rate	☐ If deposited and reused properly over multiple cycles, ☐ it reduces material and energy footprint, but return rates are low (15% in retail)
Social impact	• Behavioral changes • Public health & safety • Livelihood of vulnerable groups e.g., IWWs, low income communities	☐ .No publicly available data found. ☐ ☐
Economic impact	• Cost of finished goods • Industry revenue • End of life recycling value	☐ Collection, transport, and sterilisation costs make ☐ refillable systems impractical for many micro-breweries. Economically viable mainly where ☐ transport distances are short, but no numbers found.

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Annex 5: Further Reading

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