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Enablers for Effective EPR in the Asia-Pacific Region

Lessons from developed and developing countries in the EU and Asia

THE PHILIPPINES

ACKNOWLEDGEMENT

Enablers for Effective EPR in the Asia-Pacific Region – Lessons from developed and developing countries in the EU and Asia: The Philippines was written as part of the technical advisory support provided to The Philippines through the SWITCH-Asia Policy Support Component, which is funded by the European Union.

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ABBREVIATIONS

3Rs	Reduce, Reuse, Recycle
ADB	Asian Development Bank
ASEAN	Association of Southeast Asian Nations
BSP	Bangko Sentral ng Pilipinas
C&D	Construction and Demolition
CE	Circular Economy
DENR	Department of Environment and Natural Resources
DOF	Department of Finance
DTI	Department of Trade and Industry
EPR	Extended Producer Responsibility
EMB	Environmental Management Bureau
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit

GPP	Green Public Procurement
GPPB	Government Procurement Policy Board
IFC	International Finance Corporation
IWS	Informal Waste Sector
LGU	Local Government Unit
MRF	Materials Recovery Facility
MSW	Municipal Solid Waste
NEDA	National Economic and Development Authority
NEC	National Ecology Center
NGO	Non-Governmental Organization
NPOA-ML	National Plan of Action on Marine Litter
NSWMC	National Solid Waste Management Commission
PAP4SCP	Philippine Action Plan for Sustainable Consumption and Production
PCEPSDI	Philippine Center for Environmental Protection and Sustainable Development, Inc.
PDP	Philippine Development Plan
PET	Polyethylene Terephthalate
PIDS	Philippine Institute for Development Studies
PRO	Producer Responsibility Organization
RA	Republic Act
SCP	Sustainable Consumption and Production
SDG	Sustainable Development Goal
SLF	Sanitary Landfill Facility
SUP	Single-Use Plastic
SWM	Solid Waste Management
UNEP	United Nations Environment Programme
WWF	World Wide Fund for Nature

1. EXECUTIVE SUMMARY

This report provides a comprehensive assessment of the enabling factors for Effective Producer Responsibility (EPR) systems in the Philippines, positioning it as a critical driver for the country's transition to a circular economy. As one of the first ASEAN nations to implement a mandatory EPR law (Republic Act 11898), the Philippines stands at a pivotal moment. The analysis reveals a system with a strong policy foundation but facing significant implementation challenges that must be addressed to unlock EPR's full potential.

The Philippines grapples with a severe plastic waste crisis, characterized by rising waste generation, inadequate infrastructure, and significant leakage into the environment. A WWF-Philippines study notes that only 9% of plastics get recycled, while approximately 35% leak into the open environment, making the country a top contributor to ocean plastic pollution. The Ecological Solid Waste Management Act (RA 9003) provided the initial framework, but its devolved implementation to Local Government Units (LGUs) has been inconsistent, resulting in a fragmented waste management system.

The EPR Act of 2022 shifts significant responsibility onto large enterprises ("obliged entities") for the post-consumer phase of their plastic packaging. According to the Department of Environment and Natural Resources (DENR), early implementation shows promise, with over 900 companies registered and reported diversion of 124,986 tons of plastic packaging in 2023. However, critical challenges threaten its long-term success:

- **Weak Upstream Focus:** The law emphasizes waste diversion over waste reduction. It lacks mandates for product redesign, recycled content, and the phase-out of hard-to-recycle plastics, missing a crucial opportunity to address the problem at its source.
- **Fragmented Basic Waste Management:** EPR's effectiveness is hamstrung by the inconsistent implementation of RA 9003, including inadequate segregation, collection, and recycling infrastructure, particularly outside urban centers.
- **Market Distortions:** The absence of a mandated EPR fee structure fosters a "race to the bottom," where obliged entities opt for low-cost disposal methods like co-processing over higher-value recycling, stifling investment in a robust recycling ecosystem.
- **Insufficient Inclusion of the Informal Waste Sector (IWS):** The IWS, which plays a vital role in waste collection, remains largely informal and marginalized within the EPR system, raising environmental justice concerns.
- **Institutional and Data Gaps:** The implementing agency, the National Ecology Center (NEC), requires capacity building, while the current system for data management and auditing lacks the robustness needed for transparent monitoring and enforcement.

Stakeholder consultations confirm that while the EPR Act is a positive first step, its current design risks reinforcing a linear economy. A paradigm shift is needed, where EPR is not just a waste management tool but a catalyst for circularity.

EPR as a Driver in the Circular Economy System

The PIDS' proposed Circular Economy Systems Map for the Philippines is a complex web of interactions between policies, markets and stakeholders. Within this system, EPR acts as a primary driver by creating economic and regulatory signals to close material loops. It does this by:

1. **Creating feedback loops:** EPR forces producers to financially account for their packaging waste, creating a direct economic incentive to design products that are easier to recycle, reuse, or are made from recycled content.
2. **Stimulating market development:** By guaranteeing a supply of collected materials, EPR helps create a stable market for secondary raw materials. This can be supercharged by coupling EPR with recycled content mandates, creating guaranteed demand and making recycling economically viable.
3. **Formalizing and Valuing the Informal Sector:** A well-designed EPR system can channel financial resources to formally integrate the IWS, improving their working conditions and livelihoods while leveraging their expertise in collection and sorting.
4. **Generating Critical Data:** The EPR reporting mechanism provides invaluable data on material flows, which is essential for government to track progress, refine policies, and direct infrastructure investments.

Way Forward: Integrated Recommendations

To overcome existing challenges and position EPR as an effective driver of circularity, this report recommends:

1. **Strengthen the Foundation:** Prioritize the full implementation of RA 9003 by supporting LGUs with capacity building and financing, ensuring that basic segregation, collection, and Material Recovery Facilities (MRFs) are functional nationwide.
2. **Elevate the EPR System:** Finalize and implement the pending EPR guidelines, particularly on fines and a procedural manual. More critically, amend the implementing rules to introduce **eco-modulated fees** (rewarding recyclable design) and to **distinguish recycling targets from general diversion targets** to prioritize material recovery over disposal.
3. **Catalyze a Secondary Materials Market:** Develop a **National Recycled Content Policy** to create demand for recycled materials. Ensure EPR financing mechanisms are inclusive and support the formalization of the IWS, making them equitable partners in the circular economy.
4. **Adopt a Comprehensive Circular Economy Framework:** The government must develop an overarching Circular Economy Roadmap, led by the National Economic and Development Authority (NEDA). This framework must align sectoral policies, with EPR as a key, integrated component, and be rooted in Filipino cultural practices like reuse and refilling.

The success of EPR in the Philippines hinges on moving beyond compliance towards a system that incentivizes innovation, values all stakeholders, and deliberately designs waste out of the economy. By doing so, the Philippines can transform its waste crisis into a cornerstone of a resilient and inclusive circular economy.

2. INTRODUCTION

2.1. Background

The SWITCH-Asia Policy Support Component (PSC) is a program funded by the European Union (EU) that aims to promote sustainable consumption and production (SCP) in the Asia-Pacific region. The PSC provides technical assistance, policy advice, and capacity building to help countries adopt SCP practices and align with international commitments like the Paris Agreement and the Sustainable Development Goals (SDGs).

Under the SWITCH-Asia PSC program, this Technical Advisory Project titled "Identifying Enablers for Effective Extended Producer Responsibility (EPR) systems in Asia-Pacific Region: Drawing Lessons from Developed and Developing Countries in the EU and Asia" focuses on EPR systems which hold producers accountable for the environmental impact of their products throughout their life cycle. The Project aims to examine, draw lessons and policy recommendations on success factors, enablers, appropriate conditions which can enhance and promote effective EPR systems in the Asia-Pacific region.

A few countries in the Asia-Pacific and Central Asia regions have been selected as target countries for technical assistance from SWITCH-Asia, namely Malaysia, Philippines, Thailand and Kazakhstan. The Project also involves creating a national overview document on success factors, enablers towards effective EPR implementation and ensuring material circularity, list of relevant EPR initiatives and stakeholders, recommendations as well as potential ways forward. These efforts are compiled into short national reports and policy briefs to guide policymakers and stakeholders in advancing effective EPR systems.

2.2. Objectives of the Study

The Technical Advisory Project aims to understand the key conditions for implementing EPR frameworks effectively. The project will also create policy recommendations for the Asia-Pacific region, leveraging lessons learned from both the EU and Asia. The following are the objectives of the Philippines country report.

1. **Understand key conditions:** It is essential to identify the necessary conditions for effective EPR implementation, which may differ across countries.
2. **Be aware of country-specific challenges:** Recognise that the country faces unique challenges and progress stages in EPR implementation.
3. **Notice success and enabling factors:** Determine country's success factors, enablers and material circularity for EPR implementation.
4. **Generate a policy framework:** Develop actionable policy recommendations to enhance EPR systems in the country and in the Asia Pacific region.
5. **Provide a benchmark for other countries:** Use the findings as benchmarks for other countries in the region to advance their EPR systems based on different conditions and progress levels

2.3. Methodology

This study employed a mixed-methods approach to gather and analyze data on the enabling factors for EPR in the Philippines. The methodology consisted of the following key components:

1. **Desktop Review and Legal Analysis:** A comprehensive review of existing literature was conducted, including:
   - National laws, regulations, and implementing rules and regulations (e.g., RA 9003, RA 11898, RA 12009).
   - Policy documents, action plans, and roadmaps from government agencies (e.g., DENR, NEDA, DOST).
   - Reports and studies from international organizations (World Bank, GIZ), academic institutions, and non-governmental organizations.
   - This review established the baseline understanding of the legal, institutional, and operational landscape for waste management and EPR.

2. **Stakeholder Mapping and Consultations:** The primary empirical data was gathered through a National Consultation Workshop held on 11 March 2025 in Makati City. The workshop was designed to capture diverse perspectives and included:
   - **Participants:** Over 50 representatives from key stakeholder groups, including government agencies (DENR, LGUs), obliged enterprises (manufacturers, brand owners), Producer Responsibility Organizations (PROs), the informal waste sector, civil society organizations (CSOs), academia, and international development partners.
   - **Format:** The workshop featured a combination of:
     - **Presentations:** To provide context on global EPR landscapes and lessons from Malaysia and India.
     - **Plenary Focus Group Discussions (FGDs):** To assess the current waste management and EPR landscape.
     - **Structured "Speed Presentations":** To capture sector-specific experiences and insights using guided statements/questions (as shown in Figure 10).
   - **Limitations:** The findings are qualitative in nature and reflect the perspectives of the participants present. While diverse, the sample may not be fully representative of all stakeholders nationwide.

3. **Gap and SWOT Analysis:** Data from the desktop review and stakeholder consultations were synthesized to identify strengths, weaknesses, opportunities, and threats (SWOT) for EPR implementation. This analysis formed the basis for assessing enabling factors and formulating the recommendations in this report.

3. STUDY AREA

The Philippines is an archipelago that lies in the heart of Southeast Asia, stretching more than 1,840 kilometers and composed of 7,641 islands. It has a total land area of approximately 300,000 square kilometers. Its three main islands are Luzon, Visayas and Mindanao. Its geographic location on the map has been described as follows:[1]

> "The South China Sea washes its western shores. Taiwan, China and Hong Kong are northern neighbors and further north is Japan. To the west lie Southeast Asian countries such as Singapore, Malaysia and Thailand. An arm of the archipelago reaches out towards Borneo and at its feet stands the chain of Indonesian islands. To the east and south, the waters of the Pacific Ocean sweep its headlands, looking out towards Micronesia and Polynesia."

The Philippines has a current population of 114,891,199 as of 2023 with a projected increase of 17% to 134,373,439 by 2050.[2] It has a relatively young demographic and work force, with 79.5% of the total between the age of 15-64 as of 2023. It has a labor force of 49.56 million persons as of 2022.[3]

The country is considered lower-middle income according to the World Bank.[4] The Philippines was among the fastest growing economies in Southeast Asia for nearly two decades prior to COVID-19.[5] Its economic dynamism reflects increasing urbanization, a large and young population, and strong consumer demand, supported by a vibrant labor market and robust remittances, which have raised the incomes of the most vulnerable.[6] It registered a Gross Domestic Product (GDP) growth rate of 5.5% and 5.6% in 2023 and 2024, respectively; with forecasts of 6% and 6.1% growth for 2025 and 2026. According to the World Bank, it has a GDP per capita of 3,804.87 USD (2023).

In terms of urbanization, its level has been steadily increasing in the past decades, from 45.3% in 2010, to 51.2% in 2015, and 54% in 2020.[7] According to the Philippine Statistics Authority (PSA), In 2020, 58.93 million or 54.0 % of the total 109.03 million population of the Philippines lived in urban barangays. This represents an increase of 7.20 million persons from the 51.73 million urban residents in 2015. The rural population or those who lived in barangays classified as rural in 2020 comprised the remaining 50.10 million persons or 46.0% of the total population. According to the World Bank by 2050, approximately 102 million people (more than 65 % of the country's total population) will reside in cities. 70% of cities and urban centers are in coastal areas. Urban growth is concentrated in the 16 most populous cities, with an estimated 3.7 million informal settler families.[8]

1 https://philippineembassy-dc.org/about/
2 https://data.who.int/countries/608
3 https://kidb.adb.org/economies/philippines
4 World Bank econ _____
5 https://unhabitat.org/sites/default/files/2023/06/5._un-habitat_philippines_country_report_2023_final_compressed.pdf
6 https://www.worldbank.org/en/country/philippines/overview
7 https://unhabitat.org/sites/default/files/2023/06/5._un-habitat_philippines_country_report_2023_final_compressed.pdf
8 https://unhabitat.org/sites/default/files/2023/06/5._un-habitat_philippines_country_report_2023_final_compressed.pdf

4. REVIEW OF ENABLING FACTORS FOR EPR IN COUNTRY

4.1. Baseline Waste Management Situation in the Country

Solid waste is an environmental problem that has reached critical proportions that seek immediate attention from government at all levels.[9] As stated in the National Solid Waste Management Framework (NSWMF), with a growing population and a rapidly increasing consumption coupled with increasing urbanization, three key trends characterize solid waste management issues in the Philippines - increase in sheer volume of waste generated; change in the quality or make-up of waste generated; and the waste disposal methods.

Although waste management in general has been an issue of public concern, plastic waste has significantly contributed to this challenge. The significant factors that contribute to the growing leakage of SUPs into the environment in the Philippines are the lack of reusable plastic products; inadequate collection and separation of waste at its source; and inadequate recycling, waste treatment, and waste disposal facilities and operations.[10] A World Bank study notes:[11]

> A World Bank study (World Bank 2021c) found that the top 10 plastic items of litter within, and on the banks of the Pasig River comprised polystyrenes (PS) and expanded PS pieces,4 sando bags (single-use carrier bags), labo bags (flimsy bags without handles), snack wrappers, drink containers, PET bottles, diapers/sanitary napkins, candy wrappers, straws, and noodles/seasoning packaging. Almost two-thirds (63 percent) of plastic litter comprised plastic packaging with no tangible market value, and these items are incompatible with standard recycling processes.

This section will look at the Philippine's existing waste management system under Republic Act (RA) No. 9003, or the Ecological Solid Waste Management Act. This will be followed by an analysis of the existing legal, regulatory and policy framework covering waste management in the country. Particular focus will be on RA 11898, or the EPR Act of 2022. Understanding baseline waste generation and management is critical to designing an effective EPR system. Weak segregation, limited landfill capacity, and uneven collection rates highlight the structural constraints that producer responsibility schemes must address.

4.1.1. Existing Waste Management System

Waste Hierarchy

Overall waste management in the country is guided by the SWM Hierarchy (*see* Figure 1 below), as provided for by the National Solid Waste Management Framework. Described as an inverted triangle of waste, RA 9003 promotes solid waste management following a hierarchy of options. These options cover the entire range of activities involved in waste management starting from volume reduction and ending up to the final disposal of waste. Correspondingly, the hierarchy also matches with the levels of governance starting from households up to the province or metro wide level of political organization.[12]

The first phase of the SWM hierarchy – from volume reduction to recycling – constitute the first preferred options. The latter phase of disposal is considered a last option – hence the inverted triangle representation. The NSWMF further elaborates on the SWM Hierarchy as follows:

9 DENR, National Solid Waste Management Framework, 2004 https://nswmc.emb.gov.ph/wp-content/uploads/2017/11/NSWMC-FRAMEWORK-PDF.pdf

10 See World Bank. 2024. " Roadmap for the Management of Plastic Waste and Reduction of Non-Recyclable Single-use Plastics in the Philippines." Washington, DC: World Bank.

11 World Bank, 2021c. Plastic Survey and Product Alternatives Analysis in the Philippines Islands of Bohol, Siargao, and Siquijor. Washington, DC: World Bank.

12 DENR, National Solid Waste Management Framework, page 10 2004 available at https://nswmc.emb.gov.ph/wp-content/uploads/2017/11/NSWMC-FRAMEWORK-PDF.pdf

- *Avoidance and reduction of waste* – The base of the hierarchy triangle is avoidance and reduction of waste. The basic approach to to volume reduction covers avoidance, product reuse, increased product durability, reduced material use in production and decreased consumption.
- *Recycling and recovery* – This differs from volume reduction since it involves the recovery of products from the waste stream. Recycling and recovery generally involves material collection and transport.
- *Treatment and disposal* - Even with volume reduction and recycling are actively pursued, a considerable amount of waste would remain which would have to be disposed in an environmentally acceptable manner. Only two options for treatment and disposal are allowed - through the use of non-burn technology as incineration of solid waste is prohibited under the Clean Air Act of 1999 and sanitary landfills.

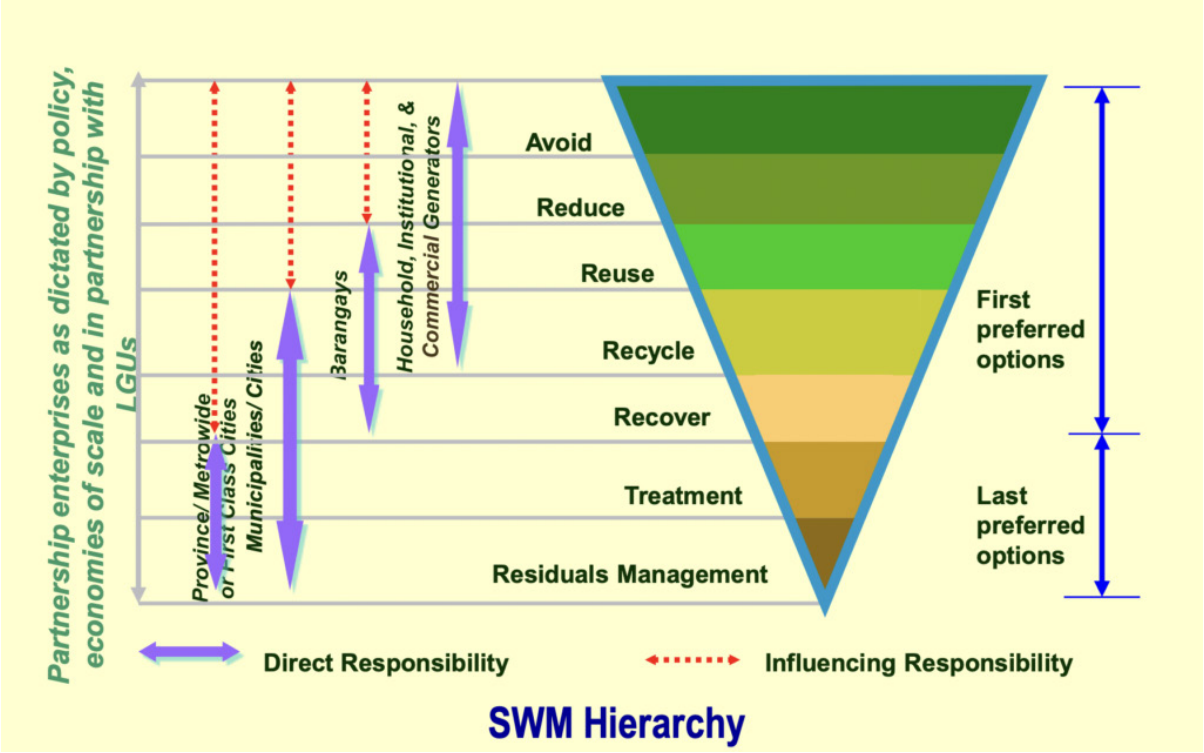

Figure 1: SWM Hierarchy

Source: DENR 2004, National Solid Waste Management Framework, https://nswmc.emb.gov.ph/wp-content/uploads/2017/11/NSWMC-FRAMEWORK-PDF.pdf

Waste Management Flow in General

Figure 2 below illustrates the general waste management flow in the Philippines.

Waste generators, whether households or commercial establishments, have the primary and mandatory responsibility to segregate waste at source. These will then be collected and transported by waste management service providers, or in most cases by local and/or informal waste sector workers, to designated Materials Recovery Facilities (MRFs). At the MRFs, sorting and segregation shall be done further, separating compostable/biodegradable waste, from recyclables and residuals. From the MRF, the residuals shall then be sent to sanitary landfills (SLFs) for final disposal. SLFs can also directly receive waste from collection, thus they also need to have an on-site MRFs for sorting and segregation.

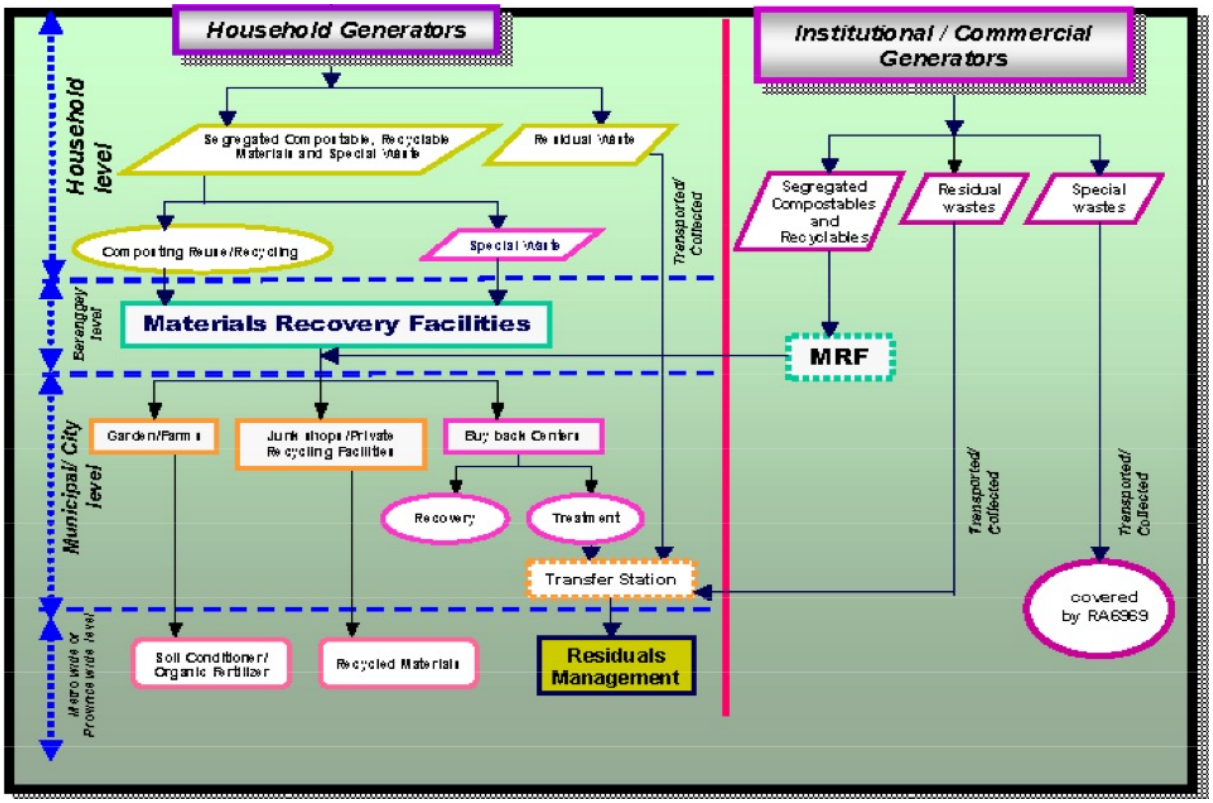

Figure 2: General Waste Management Flow in the Philippines

Source: DENR 2004, National Solid Waste Management Framework, https://nswmc.emb.gov.ph/wp-content/uploads/2017/11/NSWMC-FRAMEWORK-PDF.pdf

Waste Generation

Data from National Solid Waste Management Commission (NSWMC) reflects the rising trend in solid waste generation. Steady increases were observed for a decade, with the expected increase from 13.48 million tons of waste generated in 2010 to 14.66 million tons in 2014, and to 18.05 million tons in 2020 (DENR 2019).

Latest data from the NSWMC shows a total national waste generation of 61,700 tons per day.[13] It further estimates that 22,918,818 tons of waste will be generated by the entire country by 2025. The National Capital Region (NCR), Metro Manila, and nearby Calabarzon collectively make up 25% of the 2020 population and generate about 32 percent of the waste produced in the country. Per-capita waste generation of approximately 0.56 kg/day positions the Philippines at the mid-range among ASEAN peers; however, collection inefficiencies mean EPR mechanisms must compensate for systemic leakage rather than operate on a stable waste baseline.

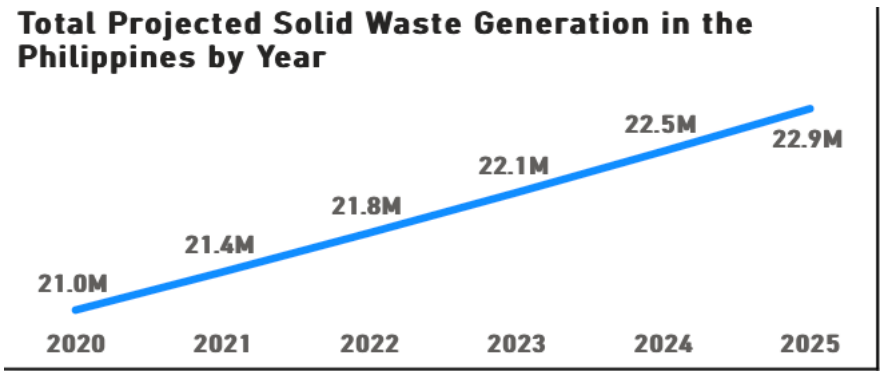

Figure 3: Total Projected Solid Waste Generation in the Philippines by Year

13 https://app.powerbi.com/view?r=eyJrIjoiMDhiZmU4YzktNzk3Mi00ODIwLWFkNGQtNDIzMWZhNWNiNWNiIiwidCI6ImY2ZjRhNjkyLTQzYjMtNDMzYi05MmIyLTY1YzRlNmNjZDkyMCIsImMiOjEwfQ%3D%3Dview?r=eyJrIjoiMDhiZmU4YzktNzk3Mi00ODIwLWFkNGQtNDIzMWZhNWNiNWNiIiwidCI6ImY2ZjRhNjkyLTQzYjMtNDMzYi05MmIyLTY1YzRlNmNjZDkyMCIsImMiOjEwfQ%3D%3D

In terms of plastic waste, a recent WWF-Philippines study notes that only 9% of plastics get recycled, while approximately 35% leak into the open environment.

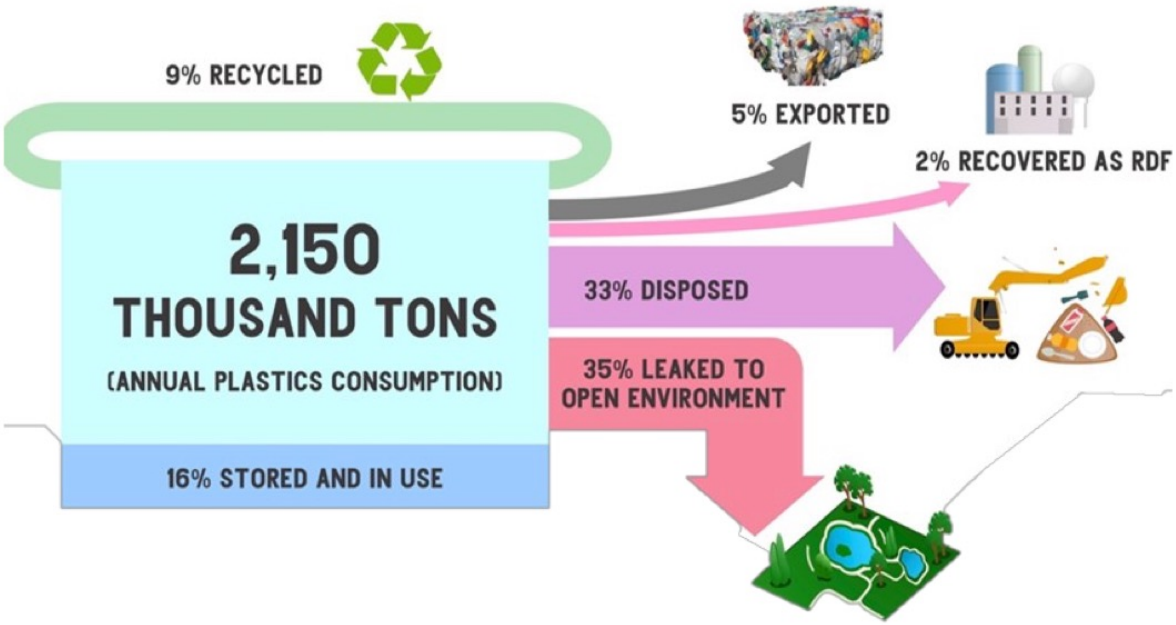

Figure 4: Flow of plastic materials in the Philippines in 2019 (WWF and AMH Philippines)

Waste Collection

Waste collection rates are different across the country depending on various factors. There is generally a high collection rate across the country – between 40% to 85% nationwide, with approximately 85% in Metro Manila. According to a recent World Bank and DENR report:[14]

> The average collection ratio for municipal solid waste in the Philippines is low, at about 40 percent; however, the rate varies significantly across different regions, depending on their socio-economic conditions. Metropolitan areas have the highest collection rates (above 90 percent), whereas 3rd to 6th class municipalities,[15] including those in developing and remote areas, have collection rates below 30 percent.

LGUs have been given the primary responsibility for waste collection within their territorial jurisdiction. However, many local governments have been constantly the informal waste sector,[16] which comprises individuals, families, groups, and small and medium-sized enterprises (SMEs), plays a crucial role in the recovery of waste materials for recycling, either on a full-time or part-time basis.[17]

Waste Management Infrastructure

Gaps in the waste management infrastructure around the country need to be addressed. Currently, there are only 236 sanitary landfills (SLFs) nationwide for 1634 cities and municipalities in the country; and only 11,625 materials recovery facilities (MRFs) for 42,000 barangays (DENR 2021). The Philippines' solid waste management system is primarily anchored on Republic Act No. 9003 or the Ecological Solid Waste Management Act of 2000. The policy's salient features cover devolution of segregation and collection

14 World Bank. 2024. " Roadmap for the Management of Plastic Waste and Reduction of Non-Recyclable Single-use Plastics in the Philippines." Washington, DC: World Bank.

15 Municipalities are divided into income classes that are based on their average annual income over the previous four calendar years: 1st class: at least Philippine pesos (₱) 55 million; 2nd class: ₱45–55 million; 3rd class: ₱35–45 million; 4th class: ₱25–35 million; 5th class: ₱15–25 million; and 6th class: less than ₱1 million.

16 The National Solid Waste Management Strategy (NSWMS) 2012–2016 refers to the informal waste sector as "individuals, families, groups, or SMEs engaged in the recovery of waste materials, with revenue generation as the motivation, either on a full-time or part-time basis. Members of this sector are classified as itinerant waste buyers, jumpers at collection trucks, garbage crew, waste reclaimers, and small and illegal junkshops."

17 World Bank. 2024. " Roadmap for the Management of Plastic Waste and Reduction of Non-Recyclable Single-use Plastics in the Philippines." Washington, DC: World Bank, page 8.

functions to barangay level, mandatory waste diversion, and forced transition of open dumpsites to sanitary landfill facilities, among others.

SWM is "constantly challenged by the increasing amount of waste with the limited resources and infrastructures in place. Some of the major challenges include inadequacy of waste facilities due to constraints in funding and manpower, and the poorly implemented regulations for the recyclables market" (WWF 2020, p.2). Limited land, and high investment requirements pushed LGUs to cluster landfills while bureaucratic delays for plan implementation, and institutional gaps hindered accomplishment of diversion rates.

Recycling

The DENR-EMB listed the following recycling facilities in the Philippines: 23 plastic recycling facilities, 14 paper recycling facilities, I recycling facility specializing in car batteries, 1 for computer electronics, 1 for tin cans, 2 for metals, 6 for container glass, 1 for Tetra Pak, 6 for car tires.[18]

Plastics have been the main items for recycling in the country. According to the WWF, only 9% of plastics in the Philippines end up being recycled. In another World Bank study (2021), it notes that the Philippines recycled about 28% of the key plastic resins in the country.[19] However, collection and recovery of recyclables, recycling, and disposal are not sufficient to cope with the increasing generation of plastic and solid waste in the country. The Philippines faces a substantial gap in recycling capacity, with only 15% of post-use plastics being formally recycled.[20] Because of this the country loses an estimated USD 80-120 billion annually due to inadequate recycling practices.[21]

Most suppliers of locally-recycled plastic resins in the Philippines are small and medium enterprises (SMEs) located within Metro Manila, with little recycling capacity outside of the capital region. The recycling technologies used for plastics comprise: (i) electric plastic densifiers with a capacity of 4 kg/day (for polyethylene (PE) plastic bags); (ii) plastic shredders for soft plastics such as plastic bags and sachets; (iii) plastic extrusion to flakes or pellets for molders; and (iv) pyrolizers for the thermal processing of industrial plastic waste.[22]

Informal waste collectors are critical players in the recycling market in the Philippines. While no comprehensive, national-level assessment has been conducted regarding the number, capacity, and spatial distribution of the junk shops involved in recovery for recycling, estimates suggest that they handle approximately 28 percent of the recyclable waste diverted from landfills in the Philippines (NSWMC 2009). These informal establishments are estimated to process up to 50 percent of all the plastic materials collected for recycling (World Bank 2021). Previous studies in the Philippines and other Southeast Asian countries conducted by this study team in 2017 and 2018 uncovered that in the case of PET the informal sector is responsible for more than 90% of the CFR rate.[23]

The World Bank estimates that most junk shops are concentrated in highly urbanized areas such as Metro Manila, where there are at least 1,268 of them. The informal waste sector only collects plastic resins with higher market value. These comprise polyethylene terephthalate (PET), polypropylene (PP), and high-density polyethylene (HDPE). The high-value plastic waste collected by junk shops is sold to larger consolidators or brought to recycling plants.

18 https://www.sea-circular.org/wp-content/uploads/2020/04/SEA-circular-Country-Briefing_THE-PHILIPPINES.pdf

19 See World Bank Group 2021. Market Study for the Philippines: Plastics Circularity Opportunities and Barriers. Marine Plastics Series, East Asia and Pacific Region. Washington DC.

20 World Bank Group 2021. Market Study for the Philippines: Plastics Circularity Opportunities and Barriers. Marine Plastics Series, East Asia and Pacific Region. Washington DC, page 60.

21 World Bank Group 2021. Market Study for the Philippines: Plastics Circularity Opportunities and Barriers. Marine Plastics Series, East Asia and Pacific Region. Washington DC, page 12.

22 World Bank. 2024. " Roadmap for the Management of Plastic Waste and Reduction of Non-Recyclable Single-use Plastics in the Philippines." Washington, DC: World Bank, page 8.

23 World Bank Group 2021. Market Study for the Philippines: Plastics Circularity Opportunities and Barriers. Marine Plastics Series, East Asia and Pacific Region. Washington DC, page 65.

Reuse and Refilling Options

Reuse and refilling options have also been explored as a way to complement existing waste management efforts:

- Reduction of low-value and hard-to-recycle plastics requires the introduction of suitable and environmentally sustainable alternatives. Some of the alternatives to SUPs include:[24]
  1. Multi-use, reusable, and refillable products: These durable products, which can be reused multiple times, include water dispensers, bulk dispensers for dry food, refillable dispensers for soap and detergent, and reusable cutlery and cups. Consumer inconvenience and lack of hygiene standards and regulations, including adequate water supply and wastewater management are the most significant barriers to the widespread use of these products.
  2. Single-use, non-plastic alternatives: These are typically made from materials such as starch, paper, bamboo, banana leaves, and palm leaves. These can be sourced domestically , but there are concerns related to shelf life and potential contamination , and this is especially the case with products used for food packaging.
- Single-use, compostable plastic: Plastic products made from resins with better environmental performance could be considered as alternatives. For instance, SUPs could be produced by substituting one resin with another that is in higher demand on the recycling market, and that is less likely to be littered. In the Philippines, the production of compostable plastic is limited, and comprises only a small proportion of the commercially available packaging. In addition, there is no facility for exclusively treating compostable plastic.

4.1.2. Existing Solid Waste Management (SWM) Regulations, Acts and Policies

The Philippine's existing SWM legal framework consists of enactments and provisions in different legal modalities. Each one complements and strengthens the overall approach to waste management in the country. This legal framework is comprised of constitutional provisions, action plans and strategies, and national laws and regulations.

Constitutional Provisions

Environmental rights in the Philippine Constitution are enshrined in Section 16, Article II of the 1987 Constitution.[25] Under this provision, the State is called on to protect and preserve the environment for current and future generations. It recognized the principle of intergenerational equity, recognizing the right of generations yet unborn to a clean, healthy, and safe environment. Other provisions support this robust framework for environmental constitutionalism in the Philippines,[26] which are further actualized in specific environmental laws and regulations.

Action Plans and Strategies

a. National Solid Waste Management Strategy (NSWMS) 2012-2016

The National Solid Waste Management Strategy was completed in 2012, and has not been updated, even after its lapse in 2016. The strategy outlined seven components and identified cross-cutting issues, as follows:

- Bridging policy gaps and harmonizing policies;
- Organisational development and enhanced inter-agency cooperation;

24 World Bank. 2024. " Roadmap for the Management of Plastic Waste and Reduction of Non-Recyclable Single-use Plastics in the Philippines." Washington, DC: World Bank.

25 "The State shall protect and advance the right of the people to a balanced and healthful ecology in accord with the rhythm and harmony of nature."

26 See generally Bueta, Gregorio Rafael. (2022). On the Shoulders of A Legal Giant: Father Bernas and Philippines Environmental Law. Ateneo Law Journal Special Issue.

- Sustainable Solid Waste Management financing;
- Support for knowledge management on technology, innovation and research;
- Creation of economic opportunities;
- Compliance, monitoring, enforcement and recognition;
- Capacity development, social marketing and advocacy; and
- Cross-cutting issues, including good governance, care for vulnerable groups and reduction of disaster and climate risks (DENR-EMB, 2016).

b. Philippine Development Plan (PDP) 2017-2022

A newly elected administration crafts Medium-Term Development Plans (MTDP), to guide planning and programming to support their overall economic agenda. As of this writing, the Marcos Administration has announced that it is targeting to release its MTDP by end of 2022.

The previous PDP identified targets toward ensuring ecological integrity, and a clean and healthy environment, including by increasing the solid waste diversion rate by 80 percent by 2022, and increasing the percentage of healthcare waste managed by 100 percent within the same period. To achieve these, priority actions included strengthening enforcement and monitoring of environmental regulations, adoption of pollution abatement solutions, and implementing sustainable consumption and production.

c. National Plan of Action on Marine Litter (NPOA-ML)

The NPOA-ML is expected to serve as a blueprint to enhance the country's efforts to control leakage of waste into bodies of water. Its general goal is to achieve zero waste in Philippine waters by 2040, with Programmatic and Cross-Cutting actions, as follows:

Programmatic Cluster of Actions:

- Establish science- and evidence-based baseline information on marine litter
- Mainstream circular economy (CE) and sustainable consumption and production (SCP) initiatives
- Enhance recovery and recycling coverage and markets
- Prevent leakage from collected or disposed waste
- Reduce maritime sources of marine litter
- Manage litter that is already existing in the riverine and marine environments

Enabling/Cross-cutting Cluster of Actions:

- Enhance policy support and enforcement for marine litter prevention and management
- Develop and implement strategic and targeted social marketing and communications campaigns using various media
- Enable sufficient and cost-effective financing and other institutional resource requirements for the implementation of the NPOA-ML

The NPOA-ML was approved in 2021 and is set for implementation by various government agencies and instrumentalities.

d. Sustainable Science and Technology for Solid Waste Management Roadmap

The development of this Road Map was spearheaded by the Department of Science and Technology, particularly the Philippine Council for Industry, Energy, and Emerging Technology Research and Development. It envisions a circular economy with a solid waste pollution-free environment, and outlines guideposts for how science and technology can support research and development and the enforcement of guidelines and standards. Full implementation of this plan is currently pending.

e. Philippine Action Plan for Sustainable Consumption and Production (PAP4SCP)

The Action Plan serves as a guiding framework to influence and steer sustainable behavior and practices towards the production and consumption of green goods and services, and shift towards sustainable and climate-smart practices and lifestyles.[27]

The PAP4SCP's priority programs include the institutionalization of Natural Capital Accounting and a National Eco-Labelling Program. An EPR law is also identified as one of the priority legislation to achieve the plans goals.

f. Sustainable Finance Roadmap

The development of this Roadmap was spearheaded by the Department of Finance, and it was launched in 2021. It is intended as the Philippines' masterplan for formulating green and sustainable policies to raise the capital and investments needed in reducing the country's GHG emissions while still increasing its economic output.

- It seeks to address policy and regulatory gaps in the following areas:
- Promoting sustainable investments through finance;
- Implementing sustainable government initiatives;
- Facilitating investments in public infrastructure; and,
- Developing projects that promote sustainable financing in the Philippines.

g. MMDA 25 Year SWM Master Plan (2022-2046)

The overall vision of solid waste management for Metro Manila, as indicated in this plan document is to establish: "Ecologically sound solid waste management towards clean and litter-free Metropolitan Manila." Specifically, the Master Plan has the following key objectives - a) to establish priority integrated SWM facilities; b) to create an enabling environment for SWM initiatives; c) to enhance stakeholder engagement and effect positive behavior change; and d) to strengthen the capacity of key institutions involved in SWM.[28]

h. Roadmap for the Management of Plastic Waste and Reduction of Non-recyclable Single-use Plastics in the Philippines[29]

Short-term (2023-2028)

The actions and milestones to achieve "**Outcome 1: Plastic Leakage Pathways Closed**" by 2028 are specified below. Actions include strengthening the regulatory framework to reduce non-recyclable SUPs and enacting legislation to support the reduction of non-recyclable SUPs.

Milestones	Actions
1. Non-Recyclable SUPs are Reduced	Strengthen the regulatory framework to reduce non-recyclable SUPs, etc.
2. Plastic Recovery from Existing Facilities is Increased	Develop an inventory of the existing MRFs, recycling facilities, and sanitary landfill sites, etc.
3. Complementary SWM Legislation is Enacted	Enact the laws that support the reduction of non-recyclable SUPs: the SUP Bag Tax Act, the SUP Product Registration Act, and the Plastic Labeling Act, etc.

27 See: https://sdg.neda.gov.ph/philippine-action-plan-for-sustainable-consumption-and-production-pap4scp/

28 See: https://mmfmpcms.mmda.gov.ph/wp-content/uploads/2024/07/Final-MP-220314-Main-Revised.pdf, page 11.

29 See: https://enviliance.com/regions/southeast-asia/ph/report_12108

Milestones	Actions
4. National Database on Recycling and SWM is Set Up and Operationalized	Publish data on waste collection, recovered recyclables, processed biodegradables, disposed of waste, and recycled plastic, etc.
5. Technical Guidelines on a Cost recovery Mechanism for Plastics and SWM are Adopted and Enforced	Survey LGUs and the private sector regarding the waste collection fees they charge businesses, etc.

Table 1: Milestones and Actions for Outcome 1: Plastic Leakage Pathways Closed

Medium-term (2023-2034)

The actions and milestones to achieve "**Outcome 2: Plastic Recycling Enabled by 2034**" by 2034 are specified below. Actions such as formulating national standards for the quality of plastic recycled materials are listed here.

Milestones	Actions
1. LGUs' Capacity to Carry Out Plastic and Solid Waste Management is Developed	Establish new centralized MRFs, recovery or recycling facilities, and regional SLFs, etc.
2. Informal Sector is Integrated into the LGUs' SWM Systems	Pilot SWM projects that promote the integration of informal workers, etc.
3. Production of Good Quality Plastic Recyclates is Increased	Develop national standards for the quality of plastic recyclates, establish a plastic certification scheme for plastic recyclers, etc.

Table 2: Milestones and Actions for Outcome 2: Plastic Recycling Enabled by 2034

Long-term (2023-2040)

The actions and milestones to achieve "**Outcome 3: Demand for Plastics Managed and Products Designed for Circularity by 2040**" are specified below. Actions include developing and issuing guidelines on eco-design and compliance with green public procurement, initiating the provision of information on products and packaging for the proper disposal of plastic waste, and negotiating voluntary agreements with the private sector on eco-design.

Milestones	Actions
1. Measures for Eco-design, Eco labeling, SUP Alternatives, and Green Public Procurement that Promote Plastics' Circularity are Adopted and Enforced	Develop and issue guidelines for compliance on eco design and Green Public Procurement, initiate on-product and on-packaging information about proper plastic waste disposal, etc.
2. Private Sector is Engaged in Plastic Reduction and Waste Management	Define standards and guidelines to implement the EPR Law, assist micro, small, and medium enterprises to participate in an EPR program, negotiate voluntary agreements with the private sector on eco-design
3. Support for Nurturing In-country Innovation and Incentivizing Information Exchanges is Strengthened	Conduct feasibility studies to implement energy recovery technologies that adhere to the environmental laws and other relevant policies, etc.

Table 3: Milestones and Actions for Outcome 3: Demand for Plastics Managed and Products Designed for Circularity by 2040

Laws and Regulations on Solid Waste Management

Republic Act 9003 (RA 9003), or the Ecological Solid Waste Management Act, remains the country's primary law governing waste avoidance and volume reduction, in addition to the proper segregation, collection, transport, storage, treatment and disposal of solid waste.[30] Notably, this law devolves the primary responsibilities for implementation and enforcement on local government units at the provincial, city, municipal and *barangay* (village) levels.[31]

Several provisions in this law and its implementing rules (IRR)[32] relate to the private sector, with some specifying waste manufacturers, recyclers and generators. These encourage their participation in institutional mechanisms for policy-making and seek to engage the sector in waste recycling and reclamation programs.

Additionally, the private sector may opt to undertake voluntary actions which are based on RA 9003. These include seeking environmental certification for their products or entering into contracts or cooperative agreements for research and development.

The most salient of these provisions, and additional commentary, are summarized in **Table 4** below.

Section	Summary	Comments
Policy-making and Governance		
RA 9003 Sec 4	The **National Solid Waste Management Commission** (NSWMC) shall have three members from the private sector, as follows: The private sector shall be represented by the following: (a) A representative from non-government organizations (NGOs) whose principal purpose is to promote recycling and the protection of air and water quality; (b) A representative from the recycling industry; and (c) A representative from the manufacturing or packaging industry. A private sector representative also serves as the vice-chairperson of the Commission.	Private sector representatives have consistently participated via their seats in the NSWMC. The representative from the recycling industry representative is concurrently the NSWMC vice-chairperson.

30 RA 9003 (2000) Section 2 c and d

31 RA 9003 (2000) Section 10

32 DENR Administrative Order No. 34 series of 2001

Section	Summary	Comments
RA 9003 Sec 7 **IRR Rule V Sec. 1**	Under the NSWMC, the **National Ecology Center (NEC)** is mandated to provide consulting, information, training, and networking services for the implementation of RA 9003. Of its functions, some are especially relevant to the private sector, and the EPR system, namely: • Establishment and management of a solid waste management information database, with information on 1) solid waste generation and management techniques as well as the management, technical and operational approaches to resource recovery, and 2) processors/recyclers, the list of materials being recycled or bought by them and their respective prices; • Promotion of the development of a recycling market through the establishment of a national recycling network; and • Development, testing and dissemination of model waste minimization and reduction auditing procedures for evaluating options. In addition, the NEC shall also serve as the hub for networking of LGUs, NGOs and industry on voluntary compliance with pertinent provisions of RA 9003. The advisory pool of experts of the NEC shall also include representatives from practicing professionals, business and industry, among other stakeholders.	The NEC was only recently established via NSWMC Resolution 1500 series of 2021. This issuance provides for a body chaired by the head of the DENR-EMB, and composed of a multi-disciplinary pool of experts from the academe, professionals, business and industry, youth, women, and other concerned sectors. Pursuant to the identified qualifications, several individuals have already been identified as NEC experts. Additional responsibilities have already been assigned to the NEC under the EPR Act of 2022. Significantly, these include the monitoring, evaluation, assessment, and knowledge management under the EPR system.
RA 9003 Sec 12	At the local government level, **City and Municipal Solid Waste Boards** are tasked with (among others) monitoring the implementation of the City or Municipal Solid Waste Management Plan in cooperation with the private sector and the NGOs.	Under the system of local autonomy and governance in the Philippines, local governments are given the primary mandate to implement solid waste management laws and regulations within their respective jurisdictions.

Section	Summary	Comments
Product Phase-outs RA 9003 mandates the NSWMC to formulate and update a list of **non-environmentally acceptable products (NEAPs)**, drawing from consultations with concerned industries and considering technological and economic viability.		
RA 9003 Sec 29 **NSWMC Resolution No. 19 series of 2009**	Significantly, NEAPs cannot be prohibited unless the NSWMC first finds that there are available alternatives available which will cost consumers no more than ten percent (10%) greater than the disposable product. If there are no commercially available alternatives, the NEAP in question cannot be prohibited. NSWMC Resolution No. 19 series of 2009 adopts guidelines on the phasing out of NEAPs. A copy of these guidelines is not publicly accessible. Nevertheless, public presentations from an activity organized by the National Academy of Science and Technology in 2019 appear to show that these guidelines specify four NEAP categories, namely Plastics, Construction Materials, Electronic Products and Products containing heavy metals.[33]	All private sector representatives are current members of the reconstituted Technical Working Committee for phasing out Non-Environmentally Acceptable Products and Packaging Materials.[34] In February 2021, NSWMC Resolution No. 1428 series of 2021 identified plastic coffee stirrers and plastic soft drink straws as NEAPs, and determined that these should be phased out in accordance with the guidelines. Notwithstanding this, civil society organizations sought legal action against the DENR, members of the NSWMC, and other government agencies, alleging their failure to release a list of NEAPs as required by RA 9003.[35] In December 2021, the Supreme Court issued a Writ of *Kalikasan* and Writ of Continuing Mandamus against the government respondents, and referred the case to the Court of Appeals for hearing and reception of evidence.[36]
Engagement in Waste Collection, Segregation and Recycling		
RA 9003 Sec 17	**Local Solid Waste Management Plans** shall include specific measures to promote the participation of the private sector in solid waste management, particularly in the generation and development of essential technologies. Specific projects or component activities of the plan which may be offered as private sector investment activities shall be identified and promoted, as well as appropriate incentives for private sector involvement.	For example, the ten-year Solid Waste Management Plan of Tuguegarao City includes a section detailing an agreement with a private corporation for the installation, operation and "maintenance of small, modular, renewable energy Municipal Solid Waste Processing Project." To support the operation, the city committed to exempt the company from tipping/gate fees, to deliver its daily segregated waste only to the company, and to provide a site to house the facility at no cost.[37]
RA 9003 Sec 21	Local governments are mandated to evaluate roles for the private sector in waste collection and segregation, as appropriate under their local waste management system.	

33 "The Ecological Solid Waste Management Act - Updates on NEAP" https://www.nast.ph/index.php/downloads/category/151-sinlge-use-plastics?download=639:dr-lao-private-sector-initiatives

34 NSWMC Resolution No. 1501 series of 2021

35 Peralta, Janine. "Government sued for alleged inaction on plastic pollution," *Inquirer.net* (28 October 2021) https://www.cnnphilippines.com/news/2021/10/28/NSWMC-writ-of-kalikasan-plastic-inaction.html.

36 Oceana Philippines, "Petitioners welcome SC issuance of Writ of Kalikasan, Writ of Continuing Mandamus vs. National Solid Waste Management Commission and agencies on plastic pollution lawsuit" (17 December 2021) https://ph.oceana.org/press-releases/petitioners-welcome-sc-issuance-of-writ-of-kalikasan-writ-of-continuing-mandamus-vs-national-solid-waste-management-commission-and-agencies-on-plastic-pollution-lawsuit/

37 City of Tuguegarao. *Updated Ten Year Ecological Solid Waste Management Plan 2016-2025* (2016) https://tuguegaraocity.gov.ph/public/files/issuances/city_plans/Updated%20Ten%20Year%20Ecological%20Solid%20Waste%20Management%20Plan.pdf, 136.

Section	Summary	Comments
Incentives and Fees		
IRR Part IV Rule XV Sec 3	The National Solid Waste Management Fund[38] may be made available for local government projects and activities that catalyze private sector investments. A budget cap of Php1.5 million is imposed.	There is no readily available or publicly accessible information on the utilization and disbursement of the fund.
IRR Part IV Rule XV Sec 7	The Local Solid Waste Management Fund may be made available for projects and activities that catalyze private sector investments. Private sector groups may avail of this fund once every three years, but must first be accredited by the Local Solid Waste Management Board.	
IRR Part IV Rule XVI Sec 1	Local Solid Waste Management Boards may contract with the private sector, to enable private proponents to finance, construct, operate and maintain a facility and, in the process, to charge user fees or receive compensation. Private proponents may operate the facility for up to 50 years, charge user fees, tolls, rentals or share in the revenue of the project, and recover their capital, operating and maintenance expenses and a reasonable return on investment.	For example, the local government of Quezon City executed a Private-Public partnership with Pangea Green Energy Philippines in 2007, for the "capture, collection, processing, and flaring of landfill gas (LFG), and conversion of methane into electricity," from waste in the former Payatas Open Dumpsite.[39] This project was registered as a Clean Development Mechanism project under the UN Framework Convention on Climate Change.[40] This facility generated Carbon emissions reduction units, which the company then traded on the carbon market.[41]

38 Created under RA 9003 Section 46

39 C40 Cities, "Clean Energy in Quezon City: A Wasteland turned into a Waste-to-Energy Model" (September 2018) https://www.c40.org/case-studies/clean-energy-in-quezon-city-a-wasteland-turned-into-a-waste-to-energy-model/

40 Ibid.

41 Tumamao-Guittap, Geomilie, Maria Edrose Corsame and Liza Velle Ramos. "Methane Recovery Facility in Payatas: A Partnership between the Quezon City Government and Pangea Green Energy, Inc." *Academia.edu* (May 2017) https://www.academia.edu/33152323/Methane_Recovery_Facility_in_Payatas_A_Partnership_between_the_Quezon_City_Government_and_Pangea_Green_Energy_Inc

Section	Summary	Comments
Voluntary Actions		
RA 9003 Sec 27	The Department of Trade and Industry (DTI) is mandated to develop and implement an **eco-labeling system** to facilitate waste recycling and reuse. This system shall be based on ISO standard 14024[42] with criteria based on product life cycle assessments.	The **National Eco Labeling Program-Green Choice Philippines (NELP-GCP)** is currently administered by the Philippine Center for Environmental Protection and Sustainable Development. (PCEPSDI). It is a voluntary program which can certify a company's compliance with the principles and procedures under ISO standard 14024.[43] Criteria are currently available for polyethylene-polypropylene packaging materials, and more broadly, for other packaging products. Notably, **Executive Order (EO) 301 series of 2004** requires all government agencies and offices to establish Green Procurement Programs, and submit this to the National Ecolabeling Program Board for third-party verification.[44]
RA 9003 Sec 54 **IRR Rule XXI Sec 1**	Government agencies are assigned specific areas of research on solid waste management, according to their mandates and expertise. In particular, the Department of Science and Technology (DOST) is tasked with initiating research on alternative uses of non-recyclable or non-reusable materials, among others. Private sector participation in research on solid waste management is encouraged.	The DOST's Harmonized National Research and Development Agenda 2017-2022 includes a section on Industry, Energy and Emerging Technology. Waste management appears as a research priority under this section, with particular references to "new product development" and "solid waste minimization."[45] On this basis, the DOST has supported Waste Analysis and Characterization Studies as well as pilot tests of waste processing technologies.[46] Additionally, the DOST implements a Business Innovation through Science and Technology (BIST) program, through which Filipino companies may apply for zero-interest loans to acquire new technologies for research and development. Environment and climate change are identified priority areas for this program.[47]

Table 4: Relevant Provisions of RA 9003, IRR and other relevant guidelines

42 Environmental Labeling – Practitioner Programs – Guiding Principles, Practices and Certification Procedures of Multiple Criteria (type 1) Programs.

43 "About Green Choice Philippines" https://pcepsdi.org.ph/programme/green-choice-philippines/about-green-choice-philippines/ (2018).

44 Note: Under RA 12009, or the New Government Procurement Act, Green Public Procurement was institutionalized across government agencies and instrumentalities.

45 Department of Science and Technology. *Approved Harmonized National Research and Development Agenda 2017-2022* (2017). gov.ph/phocadownload/Downloads/Journals/Approved%20Harmonized%20National%20RD%20Agenda%20%202017-2022.pdf.

46 DOST-Industrial Technology Development Institute. "Environment" https://itdi.dost.gov.ph/index.php/what-we-do/research-and-development/environmental.

47 DOST-Science for Change Program. "Business Innovation for Science and Technology for Industry" https://s4cp.dost.gov.ph/programs/bist/.

Laws and Regulations on Hazardous Waste

Other policies have been passed to regulate specific types of waste. Chief among these is ***Republic Act 6969, or the Toxic Substances and Hazardous and Nuclear Wastes Control Act (RA 6969)***. Notably, DENR Administrative Order 2013-22, or the procedural manual for the implementation of RA 6969, does not currently list plastic waste among the classification of prescribed hazardous wastes.

This law becomes relevant for EPR implementation since imported plastic waste can enter the country legally pursuant to RA 6969. This means that waste from other countries can be included in the domestic plastic waste which EPR programs need to contend with. Although some these imported waste are aggregated and exported again for recycling in other countries, there is also an increased risk of improper disposal or leakage into the open environment without the proper safeguards and enforcement in place.

Local Ordinances

As of 2019, about 489 LGUs (fewer than 30 percent of all the cities and municipalities in the Philippines) had passed ordinances banning or regulating the sale and use of plastic bags and expanded polystyrene (EPS) foam. The primary objective of these bans is preventing pollution and the clogging of waterways that can cause flooding. For example, only three LGUs in Metro Manila have no ordinance regulating plastic packaging materials, namely: Valenzuela City, San Juan City and Taguig City. Total ban of the use of plastic packaging materials in wet and dry markets and other establishments is imposed in the Quezon City, Marikina, Makati, Las Pinas and Paranaque.[48]

4.1.3. Existing Institutional Setup and Capacity for Solid Waste Management (SWM)

National and Local Implementation of Waste Management Laws and Regulations

The Department of Environment and Natural Resources (DENR) is the key government agency responsible for waste management in the Philippines, and its components are the Environmental Management Bureau (EMB), the Solid Waste Management Division (SWMD), and the Policy, Planning, and Program Development Division (PPPDD). The Ecological Solid Waste Management Act of 2000 (Republic Act 9003) mandated the establishment of the National Solid Waste Management Commission (NSWMC), which is the government entity in charge of implementing RA 9003's Rules and Regulations. The EMB hosts the NSWMC Secretariat, it published the National Solid Waste Management Strategy 2012–2016 (NSWMC 2011), it standardized national guidelines for waste management, and it approves local SWM plans and regulations.

Local government units (LGUs) are the ones primarily tasked with on-the-ground and frontline implementation of waste management services under RA 9003, among other basic government and social services. Municipal, city, and provincial SWM Boards and Environment and Natural Resources Offices (ENROs) are responsible for delivering solid waste and plastic waste management services to their constituents.

Other government agencies, which are members of the NSWMC, provide support to various aspects of solid waste management implementation and enforcement in the country. For example, the Department of Science and Technology provides conducts research and development on technologies which may help LGUs implement SWM practices within their jurisdictions. The Department of Trade and Industry supports SWM through the protection and enforcement of consumer rights, and the implementation of programs such as voluntary eco-labelling.

48 MMDA, Metro Manila 25 year Solid Waste Management Master Plan, 2022 page 12, available at https://mmfmpcms.mmda.gov.ph/wp-content/uploads/2024/07/Final-MP-220314-Main-Revised.pdf.

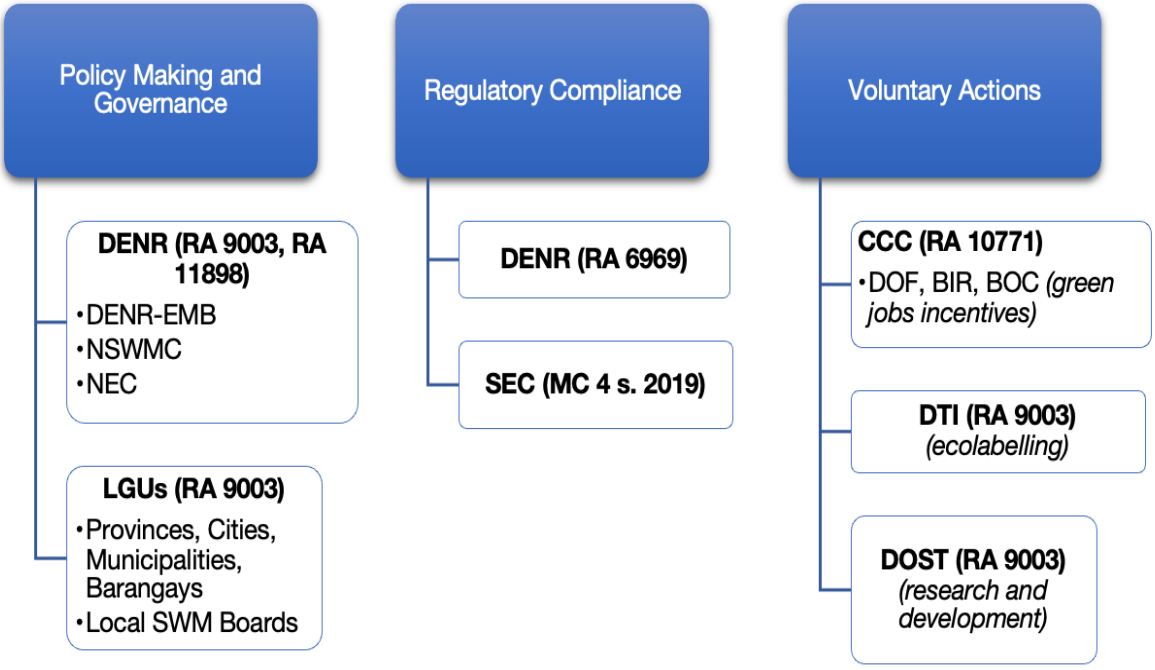

Figure 5: SWM Institutional Framework in the Philippines

Source: GIZ EPR Options for Plastic Packaging Waste in the Philippines, 2022

EPR Act of 2022 Implementation

The DENR-EMB, through the National Ecology Center (NEC)[49] is the main government implementing agency of EPR in the Philippines. The NEC is tasked to, among others, maintain an SWM database and the EPR Registry, and ensure stakeholder compliance with the EPR Act. Its other tasks include, among others, review and approval of EPR Programs of Obliged Entities, review of certification and audit reports, accreditation of PROs and collectives, and imposing and enforcement of fines and penalties for non-compliance. More on the EPR Act of 2022 in Section 4.2.1 below.

4.1.4. Existing Perceptions towards Waste Minimization by Stakeholders

Waste management, including waste minimization are on-going and evolving challenges in the Philippines. As noted above, an increasing population coupled with economic growth and urbanization are putting an ever-greater strain on the government's limited resources for SWM. Additional factors that contribute to this crisis include:

- Rising population, poverty and urbanization
- Increasing waste generation
- Inadequate waste management infrastructure
- Weak enforcement and implementation

This is compounded by increasing problem of plastic waste management: Accoridng to the WWF, only 9% of plastics are recycled, with 35% leaked into open environment. An oft quoted study notes that the Philippines is the 3rd largest contributor of ocean plastic waste (Jambeck, et.al 2015). In another study (Meijeir, et. al 2021), the 7 of the top 10 rivers that contribute most to ocean plastics pollution are from the Philippines.

49 The National Ecology Center was created pursuant to Sec 7 of RA 9003. However, it was only established and operationalized by the DENR on December 7, 2021 through NSWMC Resolution No. 1500, Series of 2021.

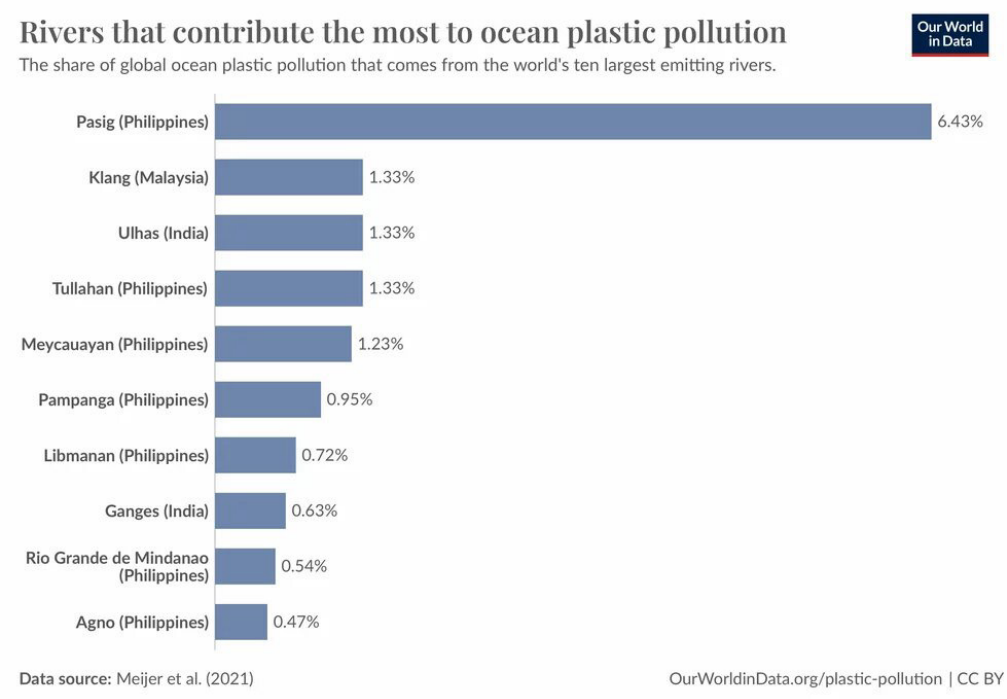

Figure 6: Rivers that contribute most to ocean plastic pollution

Source: World Bank, citing Meijer et al. (2021)

Although the waste crisis is national in scale, it is compounded and most felt in the country's rapidly expanding urban centers. As the MMDA puts it within the context of the National Capital Region:[50]

> "Waste management in Metro Manila has become a complex problem where environmental, socio-cultural, and economic considerations are intrinsically linked. An improper waste management system has dramatic impacts in the metropolitan environment (marine littering, visual pollution, soil and water pollution from untreated leachate, etc.), population, and also on the economy with its direct (environmental remediation) and indirect costs (health care, loss in tourism industry, etc.) for the short, medium, and long term."

Many environmental groups and advocates in the Philippines have called for a focus on waste reduction and minimization, instead of focusing on downstream measures. In a recent statement, Greenpeace Philippines noted that:[51]

> "If we really want to solve the plastic pollution crisis, we have to address the problem at source—through reduction of plastic production, bans on single-use plastics and genuine reuse systems that don't generate any waste. The government should not institutionalize problematic false solutions. Ending plastic pollution means we should stop creating more problems—guised as a green and sustainable solution—for the environment and public health."

There have also been calls for waste reduction to protect people's health from harmful toxics and chemicals from improperly managed waste. Environmental watchdog group BAN Toxics, along with other environmental protection advocates, called on the nation to promote "zero waste" as a principle and practice to reduce toxic and waste pollution in the Philippines in time for Zero Waste Month in 2024.[52] A recent study by GIZ on EPR in the Philippines also noted the need for increased upstream measures to improve SWM in the country, alongside EPR implementation:[53]

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50 https://mmfmpcms.mmda.gov.ph/wp-content/uploads/2024/07/Final-MP-220314-Main-Revised.pdf, page 11.

51 https://www.greenpeace.org/philippines/press/67873/greenpeace-urges-govt-dpwh-to-steer-clear-of-greenwashing-amid-plastic-use-for-roads/

52 https://bantoxics.org/2023/01/05/environmental-group-promotes-zero-waste-to-reduce-toxic-and-waste-pollution-in-the-philippines/

53 GIZ EPR Options for Plastic Packaging Waste in the Philippines, 2022, page 53.

"Increased Focus on Upstream Solutions – Alternatives are already in development for select types of plastic packaging, and several have been in use for a number of years. Efforts to scale up the research on, and roll out of these products will require investment, but are an important long-term solution to the persistent challenge of plastic waste. Development of these alternatives could also move forward the work on identification and phase out of non-environmentally acceptable products (NEAPs) consistent with the process provided for under RA 9003."

4.1.5. Existing Market for Secondary Resource Materials

The existing market for secondary resource materials in the Philippines is driven by both formal private sector players, and the informal sector. In a World Bank Report, it noted the need for a private-sector focused market for plastics recycling in the country, where scalable private sector investments are greatest.[54] It adds that the recycling industry in the Philippines faces significant challenges that affect the Collection for Recycling (CFR) rate, primarily due to fluctuating virgin resin prices and a lack of local recycled content requirements.

Furthermore, in the 2021 World Bank Study, Materials Flow Analysis were conducted for PET, PP, PE (HDPE and LDPE). The analysis reveals the following findings and insights:

PET:[55]

- All PET resins are imported; no local production exists.
- The collection-for-recycling (CFR) rate for PET packaging ranges from 20% to 65%, depending on the application;
- Current formal recycling capacity is estimated at 66,900 TPY, with informal capacity being significant; with none being recycled into food grade materials.

PP:[56]

- The CFR rate for PP is estimated at 25%-35%.
- A significant portion of PP is used in film applications, which are often contaminated and difficult to recycle.

PE (HDPE):[57]

- The CFR rate for HDPE is about 25%-35%.
- Contamination from food packaging reduces the collection and recycling rates.

PE (LDPE):[58]

- The CFR rate for LDPE is estimated at 5%-15%.
- High contamination levels in film applications lead to low collection rates.

The study further noted the following interventions for a more sustainable recycling ecosystem:[59]

54 See World Bank Group 2021. Market Study for the Philippines: Plastics Circularity Opportunities and Barriers. Marine Plastics Series, East Asia and Pacific Region. Washington DC.

55 World Bank Group 2021. Market Study for the Philippines: Plastics Circularity Opportunities and Barriers. Marine Plastics Series, East Asia and Pacific Region. Washington DC, page 37.

56 World Bank Group 2021. Market Study for the Philippines: Plastics Circularity Opportunities and Barriers. Marine Plastics Series, East Asia and Pacific Region. Washington DC, pages 40-41.

57 World Bank Group 2021. Market Study for the Philippines: Plastics Circularity Opportunities and Barriers. Marine Plastics Series, East Asia and Pacific Region. Washington DC, pages 44-45.

58 World Bank Group 2021. Market Study for the Philippines: Plastics Circularity Opportunities and Barriers. Marine Plastics Series, East Asia and Pacific Region. Washington DC, pages 46-47.

59 World Bank Group 2021. Market Study for the Philippines: Plastics Circularity Opportunities and Barriers. Marine Plastics Series, East Asia and Pacific Region. Washington DC, page 17.

- Increase waste collection and sorting efficiency to reduce contamination.
- Set recycled content targets to strengthen the domestic market for recycled products.
- Mandate design for recycling standards to improve the recyclability of plastic products.
- Encourage the expansion of recycling capacities, both mechanical and chemical.
- Create industry-specific requirements to enhance plastic waste collection and recycling rates.
- Restrict disposal of waste plastics to promote resource efficiency.

4.2. Baseline EPR Implementation in the Country

4.2.1. Existing Policy Framework on EPR Implementation

The Extended Producers Responsibility Act of 2022

The EPR Act lapsed into law on 22 July 2022, and its full implementation followed after the passage and effectivity of the law's IRR on 13 February 2023. EPR implementation in the Philippines has been driven by this recent law and be characterized as being in its early and nascent developing stages.

The law and its IRR declare as a state policy the institutionalization of EPR mechanisms as a practical approach to efficient waste management, focusing on waste reduction, recovery and recycling, and the development of environment-friendly products that advocate the internationally accepted principles on sustainable consumption and production, circular economy, and producers' full responsibility throughout the life cycle of their product.[60] It also provides for an EPR National Framework, based on two areas: i) reduction of non-environment friendly products which may include various activities and strategies; and, ii) product waste recovery programs aimed at effectively preventing waste from leaking to the environment.

It further provides for a definition of circular economy: Shall refer to an economic model of creating value by extending product lifespan through improved design and servicing and relocating ways from the end of the supply chain to the beginning. This intends to efficiently utilize resources by its continual use and aims to retain the highest utility and value of products, components, and materials at all times, through sharing, leasing, reuse, repair, refurbishment, and recycling in an almost closed loop.

In line with the recognition of circular economy as an internationally accepted principle, the law provides for a definition of circular economy (Section 3, RA 9003, as amended by RA 11898):

> "Shall refer to an economic model of creating value by extending product lifespan through improved design and servicing and relocating ways from the end of the supply chain to the beginning. This intends to efficiently utilize resources by its continual use and aims to retain the highest utility and value of products, components, and materials at all times, through sharing, leasing, reuse, repair, refurbishment, and recycling in an almost closed loop."

Producers and manufacturers, or those responsible under the EPR Act are referred to as obliged entities. They have been defined as: "product manufacturer or importer that supplies its commodities for the use of the general consumer or distributes the same as a material product of a brand owner: Provided, That …, in case the commodities are manufactured, assembled, or processed by a product manufacturer for another obliged enterprise which affixes its own brand name, the latter shall be deemed as the manufacturer."

These obliged entities include large enterprises that generate plastic packaging waste and whose total assets exceed Php100 million, per RA 9501 (or the Magna Carta for Micro, Small, and Medium Enterprises) (Section 44b, RA 9003 as amended by RA 119898). Micro, small and medium enterprises (MSMEs) are however not mandated to comply with the EPR Act – they are instead "encouraged" to practice EPR voluntarily, whether as part of a network or through a PRO.

Plastics have been the main priority of the law. Although the program can cover different types of waste, plastics are the first product to be covered by EPR programs. Types of plastic packaging to be covered by

60 DENR Administrative Order (DAO) No. 2023-02

EPR include:

- Sachets, labels, laminates and other flexible packaging products, whether single layer or multi-layered;
- Rigid plastic packaging (including containers for food, beverages, cosmetics, and their coverings, necessities and labels);
- Plastic bags (including SUP bags); and,
- Polystyrene.

The manner or compliance also has several options. Obliged entities have the choice of instituting their EPR programs individually or collectively, whether with or without a PRO. However, establishment of and choosing to join a PRO is voluntary.[61] For PROs, the DENR, in consultation with the NSWMC, obliged companies or the PRO is tasked with establishing standards, rules, and guidelines on the following:[62]

- Organizational structure, leadership, and membership requirements of PROs;
- Duties and responsibilities, including: a) implementation parameters of the EPR program; b) financing mechanisms; c) Cooperation mechanisms with other players and stakeholders, including the IWS; and d) implementation strategies;
- Standards on plastic neutrality;
- Reporting, verification and auditing of waste footprint generation, recovery and diversion; and,
- Data collection and database maintenance.

Obliged entities or the PRO/s must register EPR programs with the NSWMC within 6 months from the effectivity of the law[63].

As part of mandatory waste diversion targets, obliged companies that generate rigid or flexible plastic packaging must recover their plastic product footprint generated during the immediately preceding year according to the following schedule:

- 20 percent recovery by 31 December 2023;
- 40 percent recovery by 31 December 2024;
- 50 percent recovery by 31 December 2025;
- 60 percent recovery by 31 December 2026;
- 70 percent recovery by 31 December 2027;
- 80 percent recovery by 31 December 2028, and the succeeding years thereafter.

Green Public Procurement

As early as 2017, the Philippines, through the Government Policy Procurement Board (GPPB), has promoted Green Public Procurement (GPP) in the Philippines. GPP is a process whereby public authorities seek to procure goods, services and works with a reduced environmental impact throughout their life cycle when compared to goods, services and works with the same primary function that would otherwise be procured. According to a World Bank study, green public procurement can significantly reduce greenhouse gas emissions, promote responsible business practices, and drive innovation across industries.[64] With the support of the SWITCH-Asia Project, the GPPB launched the Green Public Procurement Roadmap (GPP Roadmap).[65] According to the GPP Roadmap:

61 Section 44h, RA 9003 as amended by RA 11898

62 Section 44d, RA 9003 as amended by RA 11898

63 Section 44f, RA 9003 as amended by RA 11898

64 https://www.gppb.gov.ph/embracing-sustainable-public-procurement-for-a-greener-philippines-under-ra-12009/

65 See https://www.gppb.gov.ph/wp-content/uploads/2023/06/GPP_roadmap_print.pdf

"The Philippine GPP Roadmap is inspired by the logic that governments have to lead by example in transforming the market. Numerous international examples exist to adopt the best practices and to avoid all possible failures on the way forward. The strategy of GPP in the Philippines is to integrate green practices harmoniously into the existing procurement processes. Over a short to medium-term period, procuring green will become the norm for an increasing number of commonly and non-commonly used supplies and equipment; the long-term perspective is to achieve sustainable public procurement."

Figure 7: Green Public Procurement Roadmap

The GPP Roadmap was eventually institutionalized through RA 12009, or the New Government Procurement Act (NGPA). It has been described as is a game-changing piece of legislation curated to enhance the existing procurement systems under the 21-year-old Republic Act (RA) No. 9184 through, among others: (i) fit- for-purpose modalities to achieve value for money;… (iii) modernize procurement processes with the use of emerging technologies and innovative solutions, (iv) institutionalize sustainable public procurement principles and practices with environmental, social and economic considerations, life cycle, gender parity, poverty alleviation, and fair opportunities to vulnerable and marginalized sectors, (v) enhance transparency and ensure greater accountability with open government, participatory procurement and use of beneficial ownership information in procurement.[66]

The NGPA institutionalizes sustainable public procurement principles and practices to embed economic, environmental, and social considerations in the design and implementation of procurement projects.[67] The NGPA ensures that government projects not only meet the needs of the procuring entity but also contribute positively to the long-term well-being of society and the environment.

4.2.2. Existing Initiative and Implementation related to EPR

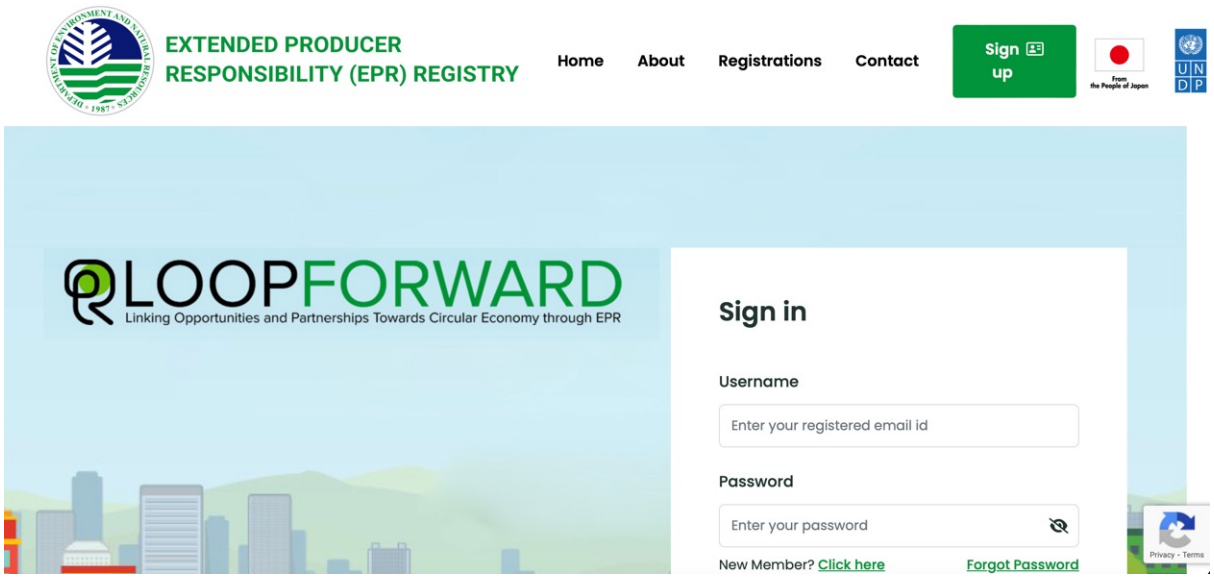
EPR Implementation Updates

The EPR Act of 2022 reached its first year of full implementation in 2024. Since its full implementation, the DENR-EMB has taken initiatives to streamline and improve implementation and compliance, especially for

66 https://www.gppb.gov.ph/new-government-procurement-act-or-republic-act-no-12009/

67 https://www.gppb.gov.ph/new-government-procurement-act-or-republic-act-no-12009/

obliged enterprises. It has set-up a dedicated website, rolled-out simple checklists to determine compliance, and disseminated information materials on the new law.

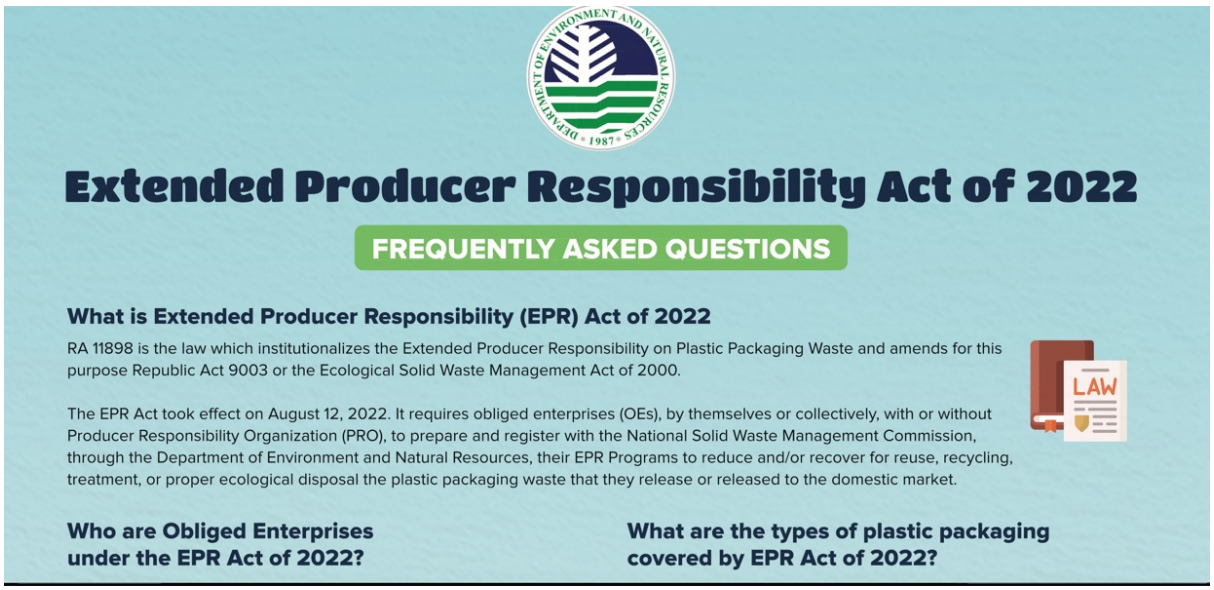


Dedicated website for EPR Implementation: https://epr.emb.gov.ph/Auth

This is to evaluate if your organization is considered an Obliged Enterprise under the EPR Act of 2022

	No.	Question	Yes/ No Please type full word
Large Enterprises*:	1	Are your company's assets (excluding land) valued over 100 million PhP? If yes, proceed to Question 3. If no, proceed to Question 2.	Yes
Micro, Small, and Medium Enterprises (MSME):	2	Are you a MSME with total value of all assets of all assets carrying the same brand, label or trademark exceeds 100 million PhP (excluding land)? If yes, proceed to question 3.	No
Plastic Packaging Waste	3	Do you generate plastic packaging waste?	Yes
		Plastic Packaging Waste: products utilized to carry, protect, or pack goods for transportation, distribution, or sale, including the following:	
	3a.	Sachets, labels, laminates and other flexible plastic packaging products, whether single layer or multi-layered with plastics or other materials;	Yes
	3b.	Rigid plastic packaging products, whether layered with any other materials, which include containers for beverages, food, home, personal care, and cosmetic products, including their coverings, caps, or lids and other necessities or promotional items, such as cutlery, plates, drinking straws, or sticks, tarps, signage, or labels;	Yes
	3c.	Plastic bags, which include single-use plastic bags, for carrying or transporting of goods, and provided or utilized at the point of sale; and	No

DENR Checklist for EPR compliance



Sample IEC material, available at https://emb.gov.ph/wp-content/uploads/2023/08/EPR-FAQ-Poster.pdf

According to the DENR-Environmental Management Bureau (EMB), a total of 624,547 tons unaudited footprint for plastics in 2023 was reported and 20 percent or 124,986 tons of plastic packaging were reported to have been diverted.[68] The DENR added that businesses have achieved this 20 percent target through waste collection and diversion, including recovery, transportation, and cleanup efforts in coastal and public areas.

The DENR-EMB further reported a 37 per cent increase in the number of businesses that registered under the EPR program, from 667 in 2023 to 917 companies as of May 6, 2024. An additional 299 medium, small, and micro enterprises (MSMEs) have also registered, despite MSMEs not being required to participate. As of end of 2024, or the 2nd year of full implementation, obliged entities should have already submitted 2 compliance reports as of end 2024. Notable achievements include successful initiatives by industry leaders such as Nestlé Philippines, Republic Cement, Holcim, Coca-Cola, Avon, NUTEC plastic, Pilmico, Jollibee, Bostil Philippines, Philusa, and Mondelez demonstrating the potential for corporate-led sustainability solutions.[69]

A recent study on EPR implementation by WWF-Philippines provided the following key findings and observations:

- A marked preference for cost-effective diversion methods over more sustainable alternatives, particularly among Producer Responsibility Organizations (PROs).
- Limited integration of informal waste workers into formal waste management systems, despite their crucial role in collection efforts.
- Significant challenges in data management and transparency, affecting the ability to accurately track progress and ensure accountability.
- Disparities in access to recycling infrastructure and technical capacity between urban and rural areas.
- The absence of robust fiscal incentives as a barrier to broader engagement, particularly among smaller enterprises.

	0,5 L HDPE Containers	0,5 L - LDPE Stand-up Pouches	0,5 L - Multilayer PET/PE Stand-up Pouches	0,5 L Glass Bottle	0,5 L - Beverage Carton	0,5 L PET bottle
Price / kg	~ 20 Php	3-7 Php	3-7 Php	0 Php	~ 5 Php	~ 35 Php
Packaging Wt	26.63 g	11.59 g	11.50 g	380.05 g	16.06 g	17.00 g
EPR fee paid price / packaging	7-10 Php - recycling	12-17 Php Alternate Recycling	12-17 Php Alternate Recycling	~ 0 Php	~ 0 Php	3-7 Php Mechanical Recycling
	5 Php Co-Processing	4.5 Php Co Processing	4.5 Php Co Processing	—	—	—

Figure 8: EPR fees for different packaging types

Source: WWF Philippines, The Impact of Extended Producers Responsibility: A One Year Review of EPR in the Philippines, 2024

The WWF study also shows that that there is a preference for low-cost diversion methods, such as Refuse-Derived Fuel (RDF), landfilling, or shredding for both flexible and rigid plastic waste.[70] These methods have led to an artificially low-price perception in the ecosystem, making stakeholders unwilling to pay more for recycling or upcycling efforts, especially for flexible plastics. The reliance on cheaper options undermines the growth of sustainable practices, including building feedstock.

68 https://denr.gov.ph/news-events/denr-reports-epr-gains-as-world-marks-environment-day/#:~:text=The%20EMB%20also%20reported%20a,and%2C%202028%2C%2080%25.

69 WWF Philippines, The Impact of Extended Producers Responsibility: A One Year Review of EPR in the Philippines, 2024 page 6, available at https://wwfph.awsassets.panda.org/downloads/epr-white-paper_oct-2024_1.pdf.

70 WWF Philippines, The Impact of Extended Producers Responsibility: A One Year Review of EPR in the Philippines, 2024 page 20, available at https://wwfph.awsassets.panda.org/downloads/epr-white-paper_oct-2024_1.pdf.

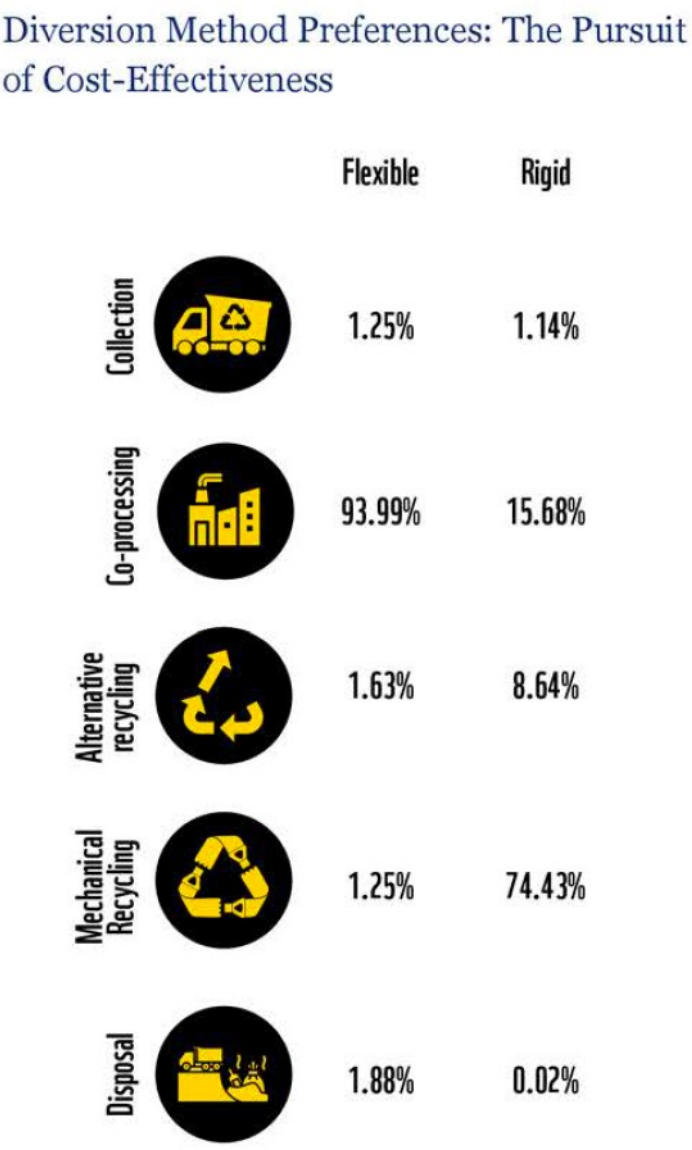


Figure 9: Percentage of Flexible and Rigid waste diverted by type of diversion.

Source: WWF Philippines, The Impact of Extended Producers Responsibility: A One Year Review of EPR in the Philippines, 2024

The DENR recently released its compliance reporting and auditing guidelines for the EPR Act through DAO 2023-04. The guidelines were developed with the voluntary support and assistance of the Audit and Assurance Standards Council (AASC) and the Financial and Sustainability Reporting Standards Council (FSRSC). It applies to all OEs, collectives and PROs who are required to submit their annual EPR Audit and Compliance Reports (EACR). The guidelines provide for the minimum contents of both the EPR Compliance Report (ECR) and the EACR.

Although the reports to be prepared and audited will be guided by the professional standards and code of conduct of Philippine accountants to ensure its accuracy, several critical information are only to be reported voluntarily. This includes, among others: i) information on solid waste generation and management; ii) information on processors/recyclers, types of materials recycled and prices; iii) information on rate of recovery and diversion of each type of plastic; iv) costs of recovery; and, v) towns or cities where EPR Programs were implemented. Of note also is that these guidelines are merely placeholders for the yet-to-be developed Uniform Standards for EPR Compliance Reporting and Audit.

As of this writing, the DENR-EMB is finalizing drafts and consultations for the following EPR-related issuances, among others: i) EPR Procedural Manual; and, ii) Fines and Penalties for Non-Compliance.

4.2.3. Stakeholder Perceptions towards EPR Implementation

Enabling policy landscape for EPR and circular economy

The Philippines existing waste management legal framework, most recently strengthened by the enactment of the EPR Act of 2022, provides for an enabling policy landscape not just for improved waste management through EPR, but also towards a circular economy. Stakeholders generally perceive the Philippine's as having sufficient laws and regulations on waste management, although there are still weaknesses and threats that need to be addressed – which become more critical in the move towards circular economy.

Philippine legal and policy landscape on waste management can be characterized as one having the basic foundations in place for an overall framework for waste management: i) solid waste management, including EPR; ii) hazardous wastes and additives; iii) "greening" industries; and, iv) EIA and other permitting laws and systems.

In a recent study on EPR in the Philippines conducted by GIZ Philippines,[71] a SWOT analysis, derived from inputs from different stakeholders, had the following findings as regards the Philippine waste management landscape in relation to EPR.

Strengths

- Framework provides for the policy and institutional "backbone" or foundation for an EPR system
- Increasing awareness and understanding of EPR among various stakeholders
- Different solutions being explored and offered – ranging from using new and innovative technologies to community-based schemes and programs

Weaknesses

- Poor implementation and enforcement of waste management laws
- Lack of coherence in national policies and programs which impact the environment sector.

Opportunities

- Broad awareness and consciousness of the plastic crisis, along with EPR as one of the viable solutions
- Rising private sector support can also be harnessed towards EPR success

Threats

- Lack of, or waning political will to push for the system despite the mandatory law
- Gaps in the current waste management system, and some specifics for the EPR system will need to be identified by policy makers

EPR Law: A positive step with systemic gaps to bridge

The Philippines is one of the few countries in ASEAN which have passed and is actually implementing mandatory EPR. The EPR Act of 2022 has been recognized as a positive step towards improving waste management. However, a deeper analysis reveals that the current system, as implemented, risks treating the symptoms of the waste crisis rather than curing the underlying disease of a linear economic model. For EPR to become a true driver of a circular economy, several fundamental flaws must be addressed.

- **The Upstream Blind Spot: Designing for the Dumpster**

  The most critical analytical shortfall of the EPR Act is its overwhelming focus on downstream diversion. By mandating only that producers collect a percentage of their plastic footprint—without specifying what happens thereafter—the law creates a perverse incentive. It makes it cheaper and easier for obliged entities to meet targets through low-cost disposal methods like co-processing or refuse-derived fuel (RDF) rather than investing in high-value mechanical recycling. This is a critical failure because a circular economy is fundamentally an *upstream concept. It is about designing waste out of the system, not just managing it better at the end. The law›s silence on* **mandatory design-for-recycling standards,**

71 GIZ EPR Options for Plastic Packaging Waste in the Philippines, 2022.

recycled content requirements, and the phase-out of non-recyclable multi-laminates *means producers face no pressure to alter the products that create the waste problem in the first place. The mention of «plastic neutrality» in the PRO guidelines is particularly alarming, as it could be interpreted as offsetting new plastic production with collection credits, doing nothing to reduce the overall volume of virgin plastic in the economy.*

- **The Informal Waste Sector: The Unrecognized Backbone of the System**

  The analysis of the Informal Waste Sector (IWS) must move beyond acknowledging their role to confronting the systemic injustice of their exclusion. The IWS is not a peripheral player; it is the de facto collection and sorting infrastructure for a significant portion of the country's high-value recyclables. However, because they operate informally, they lack social protection, fair pricing power, and safe working conditions. The current EPR framework, which allows obliged entities to transact with the IWS without formalizing these relationships, perpetuates this vulnerability. It allows companies to benefit from the IWS's low operational costs without contributing to their welfare or stability. This is not just a social equity issue; it is a critical systems risk. A circular economy that relies on an exploited and precarious workforce is neither resilient nor just. Formal integration through fair-trade principles, contracts, and social benefits is not an add-on but a prerequisite for a stable and ethical supply of secondary materials.

- **The Race to the Bottom: How the Lack of a Fee Structure Undermines Circularity**

  The decision to leave EPR fees to the market is arguably the policy's greatest flaw, and its consequences are already evident in the preference for cheap diversion methods. Without a government-mandated or centrally-guided fee structure, Producer Responsibility Organizations (PROs) compete primarily on price. This triggers a "race to the bottom," where the winning PRO is the one that can dispose of waste the cheapest, not the one that recycles it most effectively. This strangles investment in the advanced sorting and recycling infrastructure the Philippines desperately needs. The solution, proven in other jurisdictions, is **eco-modulation**. Fee structures must be set to penalize hard-to-recycle packaging (e.g., multi-layer sachets) and reward or discount easily recyclable designs (e.g., clear PET bottles). This directly uses the EPR financial lever to push innovation upstream, aligning the economic interests of producers with the environmental goals of the circular economy.

- **The Governance Gap: Data as the Foundation of Enforcement and Trust**

  The analysis of data challenges must be framed as a fundamental issue of governance and accountability. The current system, where critical information like the "rate of recovery and diversion of each type of plastic" is reported *voluntarily (as per the initial guidelines), is unworkable. It renders the system ungovernable and unenforceable. Without robust, transparent, and independently audited data, the government cannot verify compliance, citizens cannot hold companies accountable, and investors cannot gauge the market for secondary materials. This data gap creates a fertile ground for greenwashing, where lofty claims of «diverting waste» can mask the reality of landfilling or low-value disposal. Building a circular economy is impossible without a digital and verifiable backbone to track material flows. The immediate finalization of mandatory, granular reporting standards is not a technical detail but the most urgent priority for credible EPR implementation.*

Government capacity to implement and enforce the EPR Act needs to scale-up

Government capacity – such as technical, financial, institutional, among many others – is critical for the success of the EPR Act. Many studies have pointed to the challenges and limitations which government faces in implementing effective waste management, in particular the provisions of RA 9003. Enforcing provisions on mandatory segregation, proper handling and transport, MRFs, identification of NEAPs, and closing non-SLF disposal facilities have all been difficult challenges for DENR and other government agencies. Now add to this the additional mandates of the EPR Act.

Limited man-power and human resources will prove to be a challenge. Under the law, the NEC is tasked to be the main implementing arm for EPR. However, it was only in 2021 when the NEC was formally institutionalized by the DENR. Its full operationalization, especially at the regional level, has yet to be fully realized. As of this writing, it is still the DENR-EMB's personnel implementing the EPR Act – which is in addition to their other duties and responsibilities.

There have also been calls for strengthening financial support and increasing infrastructure and technological capacity for EPR implementation.[72] Fiscal and financial incentives are only those that are outline in RA 9003, which are limited to tax holidays and duty-free importation of equipment. The EPR Act also does not provide for better incentives for investing in technology and infrastructure for recycling and waste management facilities in general.

There are also several details and guidelines on EPR implementation that are still needed from the government. As noted above, the overall procedural manual and details on fines and penalties have yet to be finalized. The final accounting and certification methods also needs to be issued. In addition, some have noted that EPR implementation has focused only on plastic products, even if there are other items such as electronic waste and used clothing which are also equally polluting. No clear standards and guidance on the detailed operationalization of PROs or Collectives was given by the law or its IRR. These have been left to the determination of those which organize the PROs or collectives, based on general guidelines under the law and rules.

Circular economy definition can be improved and expanded

Of note is that the EPR Act provided for a definition of circular economy. This is a positive step as it makes the definition part of the Philippine waste management legal framework. However, several missing elements can be identified after analyzing this based on other definitions of circular economy.

First, there is no mention of waste reduction, echoing the criticism of the law being weak or lacking on upstream measures. The definition simply focuses on the process of collection and waste diversion, in addition to recycling. Second, there is no mention of circular economy's benefits to nature, or to what some definitions call regenerating natural systems. One of the stated benefits of the circular economy is the reduced stress on nature and its products and derivatives. By reducing the use of new or virgin material and preventing waste leakage into the environment, nature is allowed to thrive and revive itself. Lastly, the definition also fails to refer to the systemic shift which circular economy hopes to achieve. By this concept, a change in production and consumption patterns and behavior is hoped to be achieved through the various circular economy measures. Societal changes are thus made into effect because of the circular economy.

A more participatory and inclusive approach

Many stakeholders have continuously called for an inclusive and participatory approach to waste management, and in particular to implementing EPR. A study in the blue economy and marine pollution noted that efforts at addressing this issue tend to focus on 3Ps – policy, process and price.[73] A critical element is often missing, a 4th P on people. There is a need to ensure a 4Ps approach to reflect environmental justice considerations. Informal waste workers must be considered into the schemes and programs, especially in implementing EPR. Support for community-based organizations and social enterprises must be included in EPR programs.

This also includes integrating IWS into overall waste management. As a recent GIZ study notes:[74]

> "EPR for the Philippines will not be implemented in a vacuum and it will not reinvent the waste management wheel. Therefore, it should also carefully consider the impact on and integration of the informal waste sector into the EPR system, given the crucial role these stakeholders play in on- the-ground and community-based waste management across the Philippines.
>
> Involvement of the informal waste sector can be challenging, given the informality of their arrangements and the lack of baseline data on their situation. Nevertheless, CSOs at the local level have successfully implemented programs with informal waste workers and aggregators, and will have valuable lessons to draw from, to determine the sector's priorities, resources and necessary support. Incentives to formalize the sector, as appropriate, can also be explored, under the Green Jobs Act and Sustainable Finance Road Map."

72 https://wwfph.awsassets.panda.org/downloads/epr-white-paper_oct-2024_1.pdf

73 Recommending a 4Ps Approach to Addressing Marine Pollution from an Environmental Justice Perspective Forthcoming ADBI paper (presented in February 2023, University of Wollongong, NSW, Australia)

74 GIZ EPR Options for Plastic Packaging Waste in the Philippines, 2022, page 51.

5. NATIONAL CONSULTATIONS AND STAKEHOLDER ENGAGEMENTS

The national consultation workshop for the Philippines was held in Makati City, on 11 March 2025. Over 50 participants representing different sectors and stakeholders involved in EPR implementation in the Philippines.

5.1. Opening Remarks and Overview

The event began with Opening Remarks and an Introduction to the project by Dr Zinaida Fadeeva. She highlighted that SWITCH-Asia is probably the oldest and most wide covering technical assistance in the region, covering 42 countries. Through this the program accumulated sufficient knowledge and partnership with the Asian and Pacific region. Activities focused along the most intensive supply chains, including textile, production and consumption of plastics, infrastructure, tourism, and the like. The program is currently looking at circularity towards returning the material or keeping the supply chain as long as possible.

Dr. Fadeeva added that strong EPR policies linked to a circular economy framework will not only help improve waste management, it can also encourage industries innovate. The project thus hopes tp lead to the second stage of the consultation—to move to policies and elements which would promote sustainable product design, product consumption, and end-of-use recovery and promote circular economy.

The opening remarks were followed by a presentation on the global EPR landscape by **Prof. Thomas Lindhqvist**, from the International Institute for Industrial Environmental Economics (IIIEE), Lund University. He began by recalling the waste management and early EPR experiences of Sweden and other parts of Europe in the 80's and early 90's. He also discussed the typical EPR scheme, wherein producers include end-of-life considerations and the cost of waste into their products, ensuing its proper disposal, recycling, or re-sue as the case maybe. Municipal governments were then free to allocate the previous budget for waste management for other services and activities.

Today, Prof. Lindhqvist notes that in the EU there much better collection, sorting, and recycling. However, one problem he notes is that there is loss of resources because of downcycling. This can be resolved through the improved design of products. As such moving forward, Prof. Lindhqvist says that EPR must promise durability of products. Products should be collected and used effectively so we get the value of quality materials. Consumers and the government must demand better design of products so they can be used better. Eco-modulation, recycled content requirements, and environmental standards for imported products are just some of the ways by which EPR can be achieved to contribute better to circularity.

5.2. Assessing the Current Waste Management and EPR Landscape in the Philippines

During the first plenary FGD, the participants were asked about their assessment of the Philippine's waste management system in relation to EPR implementation. They were first asked to describe in a word or short phrase the EPR landscape in the country. Several participants noted that they were hopeful and saw the EPR Act as a positive first step in the right direction towards improved waste management. EPR is at a very promising stage because of the mandatory nature of compliance, at least for obliged entities. This despite the existing challenges in EPR implementation such as: full implementation of basic waste management systems under RA 9003; local government implementation such as pursuing zero waste solutions and systems; and drafting and rolling out detailed EPR policies and guidelines.

On the other hand, some participants noted several critical factors which hinder EPR's full potential in the country. One participant called the current waste management system fragmented, especially at how the different aspects of basic waste management were not being fully implemented (e.g., segregation upon collection and transport). Another example of this fragmented system is the reliance on informal waste sector workers and systems in waste management. Furthermore, EPR mandates only cover plastics and

does not yet include other problematic waste such as waste electronic and electrical equipment (WEEE).

Other participants noted missed opportunities at strengthening the EPR system in the Philippines. EPR fees (or the cost of compliance for companies) are not channeled to finance innovation in better products. Furthermore, current policies and the mandates under EPR do not support zero waste solutions or models.

The participants were next asked if the current EPR law was effective in improving overall waste management. The discussions, as steered by the participants, shifted to identifying other challenges in the EPR law which would assess or reflect its effectiveness. One critical point was that the passage of the law alone cannot result in better waste management. This relates to another point on involving the private sector through market driven mechanisms. It was noted that the markets can potentially determine if waste materials have intrinsic value; in other words, how can secondary materials be made more valuable within the EPR system. It was also emphasized that basic waste management systems need to be improved and fully implemented in order for EPR processes to be scaled-up. It is not enough that waste items are collected but they need to be reused and recycled as much as possible.

Another important challenge of EPR implementation in the Philippines relates to the involvement of local government units. Some participants noted that cities were not aware of the EPR Act, and in particular how they will be engaged in the system. It was further noted that there was regional imbalance as most EPR-related activities are all taking place in urbna centers and in highly-urbanized cities. Obliged entities are free to select where to implement their EPR programs, and naturally they will choose easy-to-operate in cities and municipalities with already existing or more robust waste management programs. This is due to other logistical challenges of transporting waste from island municipalities across the country.

Other issues that were pointed out that also need attention when implementing EPR include impacts on waste pickers and others in the informal waste sector; waste trade, especially those imported from other countries; and inclusion of thermal processing and co-processing as forms of disposal and diversion in EPR programs.

5.3. EPR Experiences from Malaysia and India

The next part of the consultation workshop saw presentations from Malaysia and India on EPR developments and experiences in each jurisdiction.

Mr. Soon Hun Yang, Regional Coordinator for EPR, SWITCH-Asia Project began with a discussion on circular economy and EPR experiences in Malaysia. He noted that unlike the Philippines, Malaysia does not yet have an EPR law. However, there are many policies focusing on circular economy being led by different ministries and agencies of the government. For example, there are ministries on e-waste, and another on industries which focus on product design and fees for collection and recycling. Mr. Soon also added that there are voluntary EPR programs on-going, in particular the industry-led group MAREA pushing for EPR in the country. There is a target to have mandatory EPR within 2025. Mr. Soon then presented on a potential circular economy institutional set-up for Malaysia, and proposed financial flows for e-waste EPR, among others.

Some of the other challenges noted include complex materials used in packaging; alignment between government direction and industry priorities; numerous informal waste sector workers; limited quality of recycling technologies; lack of consumer awareness of their responsibilities; logistical issues and challenges; and absence of digital infrastructure to support information flow and monitoring.

In response to a question and to conclude, Mr. Soon noted that EPR in a way will bring the required infrastructure in Malaysia. The country is going cashless in many places. But in terms of the EPR fees and transparency issues, it's a big area to work in and will be a challenge.

EPR experiences from India was then presented by Mr. Pranshu Singhal, Founder of Karo Sambhav. He began by noting that the Indian market is like the setting of many countries. EPR has now extended from electronic waste to plastic, to tires, to end-of-life vehicles, among others and is expanding very significantly. In relation to circular economy, he notes that EPR is a pivotal tool to in achieving circularity across different elements. Mr Pranshu then noted some of the gaps which EPR addresses:

a. Design – eliminates materials that are of concern (i.e., toxic), and makes products easy to repair and recycle;

b. Business models – veer away from consuming more;

c. Inadequate collection systems and early stage recycling – enabling high quality recycling and working with the informal sector; and,

d. Misplaced secondary materials – address what the market needs.

Mr Pranshu the talked about how their organization now focuses on the value chain – from the role of manufacturers, PROs, government regulators, up to the consumers. Whereas before the focus was on collection systems and other so-called easy solutions. Using technology was also critical. This helps enable accountability, traceability, and transparency while driving circular practices across sectors and the value chain.

Critical bottlenecks in EPR implementation were then presented. First was the undetermined cost of EPR compliance which was left to the market to determine. This relates to another issue on the lowest cost compliance mindset by producers – there is too much focus on compliance with lowest-cost solution which may not necessarily be the right solution. Public disclosure was also raised as a bottleneck, particularly at what is happening within the system from the grassroots up. Related to this is the absence of digital systems for transparency. Lastly, lack of enforcement and surveillance has also bene raised as an issue and on-going bottleneck.

To conclude, Mr. Pranshu several solutions for consideration. First, he talked about sustainable financing and its potential to help achieve circular economy. This can help change producer's mindset from simply EPR compliance towards circular innovation. Sustainable financing options can create dedicated EPR budgets and prevent a race-to-the-bottom approach. Another solution is high-cost recycling. This entails mandating standard recycling practices and recovery targets, creating reporting formats, and catalyzing technology for recycling. Lastly, solutions which promote the use of secondary materials – particularly mandating its extraction from waste products and use in new products – can be explored as one solution for circular economy.

5.4. Speed Presentations: Sectoral Experiences from PH Stakeholders

The next part of the consultation workshop involved speed presentations where the participants were asked to briefly share their sectoral experience on EPR and circular economy in the Philippines by answering or completing one of the 10 statements/questions.

Figure 10: National Consultation Workshop Statements/Questions

The following is a summary of the key points shared by the participants:

a. ***Public participation and awareness*** – There is a need to continuously make the public aware of the importance of a circular economy, and on avenues and ways by which all stakeholders can participate and contribute. In particular, the different stakeholders need to know the different kinds of waste materials and how these need to be properly disposed of or recycled. This will be supported by proper segregation across the entire waste value chain.

b. ***Effective regulation by the government*** – There is a recognition that CE needs effective governance and an integrated system which will be pushed for and supported by government leaders, policymakers, and elected officials. This will help provide clear standards for compliance by all stakeholders, especially the EPR Act obliged enterprises. Government participants were also optimistic of the successful EPR implementation in the country with the support of all stakeholders and international development partners.

c. ***Considerations for the informal waste sector*** – IWS workers have been recognized as critical components and stakeholders in waste management in the Philippines. As some stakeholders have noted, IWS workers are working in many areas where formal waste collection systems are lacking or absent (i.e., small island barangays). There are policy gaps on IWS participation that need to be addressed, recognizing that they are perhaps the biggest contributors of collected waste in the country.

d. ***Private sector role*** – Private sector's role was also recognized not only as those having mandates under the law but also as partners for successful implementation. Private sector networks such as those from chambers of commerce can provide its members not only with services but also with advocacies towards supporting the circular economy. This entails collaboration with different stakeholders, helping to build skills for a circular economy.

e. ***Support from development and international organizations*** – Participants recognized the need for sustained support on EPR and circular economy from development and international organizations. Organizing and convening gathering of stakeholders to exchange experiences and learn best practices was one area of intervention. Providing avenues for incentives and scaling-up innovation was also recognized as potential projects and programs needing support.

f. ***Considerations for the Global Plastics Treaty*** – As of this writing, the on-going negotiations for a Global Plastics Treaty provide many opportunities for supporting EPR and the move towards a circular economy. Participants noted the need for the treaty text to include measurable and time-bound targets for reducing plastic use and production, and for improved plastic waste management. In addition, the treaty needs to consider just transition options and concerns for IWS workers which may be affected by the treaty implementation, and the move towards a circular economy.

g. ***Reducing plastic use and consumption*** – Several participants noted the need to also focus on upstream solutions which mandate the reduction of plastic use and consumption. This involves reducing the number of products, or types of unnecessary packaging. There is a need for more products that are designed for long-term use.

h. ***Exploring different solutions*** – Participants shared and noted several solutions to address the plastic waste crisis, and to support the move towards a circular economy. Zero-waste and plastic-free initiatives have been implemented by several participating organizations. They also noted the dangers of incineration and similar waste management options, taking note of experiences in the EU. The use of plastic credits was also cited as an example of an innovative approach, with positive developments which can be replicated and cited as a best practice.

5.5. Closing and Synthesis

In concluding the workshop, Mr. Sachin Joshi, Key Expert, SWITCH Asia Project, noted that when one looks at the EPR system, it works when the participants of the system realize the value that they would want to derive from that system. In the EPR system, you have the private sector, the public sector, the informal sector, and the citizens. Each one has its own value derived from the system. Until such time that that stakeholder realizes the value, the system will collapse.

There is also a need to have EPR laws to mandate the use of secondary materials, putting in place guidance and guidelines on product design. The price of the secondary materials is going to be higher than the original materials. It should not be left to the market systems to figure the price. Governments should step in to make secondary materials less expensive than virgin materials, but only on specific instances.

6. ASSESSMENT OF ENABLING FACTORS FOR EPR IN THE COUNTRY

The previous sections of this report have described the existing waste management and EPR landscape in the Philippines. As noted above, EPR implementation in the country is in the nascent stages under the EPR Act of 2022. As such, the national consultation workshop also served as an opportunity to evaluate and assess the effectiveness of this new law. At the same time, opportunities for better and effective implementation to meet circular economy objectives were identified.

This section will provide an assessment of enabling factors to strengthen EPR implementation in the country, towards contributing to circular economy goals and objectives.

6.1. Support enabling conditions for EPR along with cross-cutting measures[75]

A recent EPR study identified several enabling conditions for EPR in the Philippines, alongside considerations of cross-cutting measures and essential elements of EPR in the Philippines. Although the study was released before the enactment of the EPR Act of 2022, its recommendations and findings still provide critical enabling conditions for the law's effectivity and success.

1. Strengthening downstream measures and ensuring a fully-functioning waste management system

A fully functioning waste management system is imperative for any EPR measures to succeed. Plastic waste must be properly collected and segregated, to facilitate proper reuse, recycling, recovery or disposal. As noted in the study and by the participants of the national consultation workshop, numerous challenges exist such as implementation of segregation measures, operating the requisite Materials Recovery Facilities (MRFs), and providing credible data to paint an accurate picture of IWS involvement in the waste value chain.

Even with the EPR Act, any gains from the system will not be realized unless these roadblocks are addressed. This will entail strategic and long-term efforts that are consistently implemented, ranging from full implementation of RA 9003, participation of all relevant stakeholders, and establishing up-to-date baselines for all components of the waste management system. Moreover, the need for clear guidance and funding support for LGUs cannot be overstated. Cities and municipalities across the country have varied significantly in their solid waste management programs, due in no small part to the differences in population, geography and income, in addition to their human resources, infrastructure and facilities, and the waste that they generate.

Moreover, an effective and fully-functioning basic waste management system will support the efficient and success implementation of EPR schemes and programs. Proper segregation, handling, transport, and storage will ensure that EPR covered products (i.e., plastics) are sent to the appropriate recycling or disposal facility. This in turn can help create more value for wastes, enabling the creation of secondary markets for waste or the use of recycled materials in the production chain.

2. Supporting a paradigm shift by instituting and enacting upstream measures

The Philippines is already saddled with more plastic waste than it can recycle, and faces high levels of waste leakage into natural environments. Long-term solutions to the plastic waste crisis will therefore require a paradigm shift that foregrounds and prioritizes upstream measures for solid waste management. This shift can be pivoted towards a circular economy which will help improve not just the waste sector but also other sectors and segments of Philippine society. Effective implementation of EPR systems can support this paradigm shift through institutionalization of recycling programs, tied with mandatory measures such as better product designs for recyclability or using recycled materials for new products.

75 See in general GIZ EPR Options for Plastic Packaging Waste in the Philippines, 2022

A key part of the circular economy is that of reusing and recycling materials and resources in the production of new materials in a continuous loop or cycle. This results in the reduction in the use of new or virgin resources, particularly those sourced from nature, thereby allowing the environment to thrive and to regenerate. However, this ideal scenario will only work if concomitant changes in production and manufacturing, or upstream measures, are also made by businesses and manufacturers. There needs to be prioritization of resource use reduction, not just through recycling but through changes in how things are produced and made.

These upstream measures include, among others:

1. Product and supply chain redesign;
2. Research and development for the production of alternatives;
3. Improved use of materials; and,
4. Shifts in consumer preferences and behavior.

3. Suitably defined stakeholder roles and responsibilities and capable and competent institutions that gather public support and the needed investments

Ensuring the proper implementation of existing laws on waste management such as EPR, and developing new policies like the circular economy framework will require a strong institutional framework. Government institutions, which include policy-making and regulatory agencies, need to be capable and competent to implement the circular economy plans and programs. This entails both having the technical and state-of-the-art knowledge and information, but also the adequate amount of financial and other resources. These institutions will also be critical in ensuring the due consideration and proper inclusion of the other elements of circular economy.

The success of any EPR system, and the move towards a circular economy, also hinges on the actions and compliance of the different stakeholders. Government policy makers need to enact clear and unambiguous policies, whilst environmental regulators need to ensure proper compliance and enforcement. Local governments must ensure implementation of general waste management laws such as proper segregation and collection to contribute to the success of the EPR system. Obliged companies and the PRO, if any, must also meet and comply with the mandatory provisions and targets of the law. Consumers on the other hand must be ready for the cultural and economic shift which EPR implementation may bring into society.

4. Due and careful considerations of cross-cutting measures

As noted above, the GiZ study also recommended several cross-cutting actions and measures that must be considered for the success of EPR implementation. These cross-cutting measures are also need to be factored into the development and advancement of circular economy in the Philippines. Some of these cross-cutting actions are discussed below:

a. **Involve Informal Waste Sector and Ensure Integration Into Existing Waste Management Systems** – EPR for the Philippines will not be implemented in a vacuum and it will not reinvent the waste management wheel. Therefore, it should also carefully consider the impact on and integration of the informal waste sector into the EPR system, given the crucial role these stakeholders play in on-the-ground and community-based waste management across the Philippines.

b. **Mandate Eco-labeling** – For all plastic packaging types, eco-labeling requirements are a relatively low-hanging fruit, for which there is already ample legal basis and preliminary work, and as such, can be implemented across the board. Proper labelling and product information can help in the implementation of the EPR system – consumers will know how to properly sort and segregate items, how the product can be recycled, and how waste management operators can design efficient and effective systems to deal with the specific wastes.

c. **Avoid and Prevent Greenwash** – While many producers and manufacturers, including obliged entities under the EPR Act, have been eager to play up the voluntary measures that they undertake as part of the corporate social responsibility programs, transparency and monitoring are essential if these activities are to count toward their compliance with the mandatory EPR system. Avoiding greenwash is important, if the EPR program is to be considered credible and is to be trusted by the public.

d. **Careful Study in Determining Taxes, EPRs Fees, and Incentives** – One of the most challenging issues as regards EPR implementation across the globe are the added fees associated with the system. Both private companies and consumers balk at added charges from the government, which can in turn drive up costs of certain goods. This can become a very sensitive issue for a developing country like the Philippines, where possible increase in prices can impact lower income and vulnerable communities. Any increase in taxes and collection of EPR fees should also be complemented by a clear system for accounting, disbursement and auditing at by the DENR NEC. This not only ensures that the system is funded, but more importantly that the added burden on companies and consumers was worth the cost. It should be noted that under the EPR Act, no EPR fees or taxes have been mandated and it is up to the obliged entities to determine their own EPR costs.

e. **Use of Bans and Phase-outs with Caution and Aligned with Product Redesign** – Although the reality is that many types of plastics are causing huge amounts of pollution into the open environment, there are certain types of plastics which cannot be eliminated overnight. Any bans or phase-outs must be carefully planned and done in consultation with concerned stakeholders. These must also include clear timeframes before the identified products can be taken out of commerce and use. There must also be political will and government determination to ban certain types of plastics deemed highly polluting and unnecessary. These measures also need to complement product re-design efforts – which means investments in research and development and finding viable, safe, and environmentally friendly alternatives should be given equal priority.

f. **Employ Appropriate Recycling and Disposal Technology** – It should be emphasized that the priority should be to reduce plastic use and recycle as much of the plastics already out there, and not to simply divert or dispose of the same. Recycling should be prioritized for high value and highly recyclable plastics. Those that are not recyclable and are thus bound for final disposal and/or for co-processing activities need to be done under strict standards and conditions, even as these measures are preferred to disposal in landfills. This is to avoid the dangers and hazards which these may cause to human health and to the overall environment. In addition, this will ease the pressure on already overstretched waste disposal facilities, with a majority of needed sanitary landfills still in the pipeline for construction and development.

g. **Ensure effective data management, auditing and monitoring** – Given the numerous mandates, targets, and stakeholders involved in an EPR ecosystem, proper and effective management of data and information is critical. Government regulators – in the Philippines' case, the National Ecology Center (NEC) under the DENR – are mandated under the EPR Act of 2022 to establish and manage information databases on solid waste management techniques and approaches, processors and recyclers, the prices of recyclable materials, and submitted EPR reports. The NEC shall also be tasked to maintain an EPR Registry of all submitted programs. The database will enable government regulators to effectively monitor compliance of obliged entities, waste management operators, and other stakeholders. It is also important to emphasize the need to ensure that these databases are comprehensive, user- friendly, and accessible by EPR system stakeholders and the general public.

6.2. Identifying Elements for Circular Economy in the Philippines

As the project and this study has noted, strengthening EPR systems is critical in the country's journey towards a circular economy. EPR can be one of the tools to move away from the linear model of consumption and waste management, to one that not only reuses and recycles materials, but supports the regeneration of nature. However, as pointed out by many experts, there is no one-size-fits all approach to circular economy. Each country must chart its own path towards circularity.

A recent study by PIDS attempts to identify the critical and unique elements for circular economy in the Philippines:[76]

76 See in general https://pids.gov.ph/publication/discussion-papers/study-on-circular-economy-pathways-for-waste-management-in-the-philippines

1. Rooted in Filipino cultures and traditions

Circular economy in the Philippines needs to recognize existing "circular" practices in Filipino culture and traditions. Some of these were identified by participants in the national consultation workshop. These include practices of reusing, refurbishing, and recycling discarded items; refilling daily commodities via *sari-sari* stores; and buying and using second-hand and pre-loved items such as clothing and furniture, among many others. The tradition of community-centeredness, reflected in the Filipino trait and practice of *bayanihan* is also an important consideration. For many Filipinos, these circular economy practices are part of the socio-cultural aspect of daily life. Thus it is important that circular economy approaches in the Philippines carefully consider and incorporate these traditional practices and the unique culture of Filipino communities. This will help in the assimilation and acceptance of other circular economy practices especially at the local community level – critical for the move towards circularity.

2. Environmental justice and rights-based focused approach

As discussed in the PIDS study – and also as noted during the national consultation workshop – the current socio-economic conditions of the Philippines necessitate that due consideration be given to the vulnerable and marginalized segments of society when addressing environmental issue such as waste management and plastic pollution. At the core of the problem of pollution are the social and environmental justice challenges which makes its impacts worse. Solutions, programs, and policies on the circular economy must consider environmental justice to be truly meaningful and effective. Through a rights-based approach, concerns and the welfare of low-income consumers, IWS workers, and communities already affected by pollution are given priority in the crafting of solutions.

3. Built upon the proper and effective implementation of basic waste management systems

The importance of effective waste management systems in the circular economy cannot be overemphasized. The road to a circular economy starts with basic waste management practices being done effectively. These include segregation at source; proper collection, handling, and transport; appropriate sorting and transit facilities; and environmentally sound final disposal and/or recycling facilities. The right policies, coupled with proper implementation and enforcement, along with compliance by businesses and the general public will lay an effective starting point for the shift to a circular economy.

4. Guided by clear and comprehensive laws, regulations, policies and institutions under an overarching framework

Shifting to the circular economy is an enormous task which cannot be done overnight and will require a long-term commitment to meeting its goals and objectives. In addition, the journey towards the systemic shift to circularity requires clear guidance and direction – a pathway towards a circular economy. That is why the role of laws and policies in this process cannot be understated.

6.3. EPR in A Circular Economy Systems Map for the Philippines

The PIDS study further recommended a circular economy systems map for the Philippines, showing how the different elements and aspects of circular economy can interact and work together in the Philippine context. In this section, we situate EPR in the systems map and how EPR enables the circular economy system.

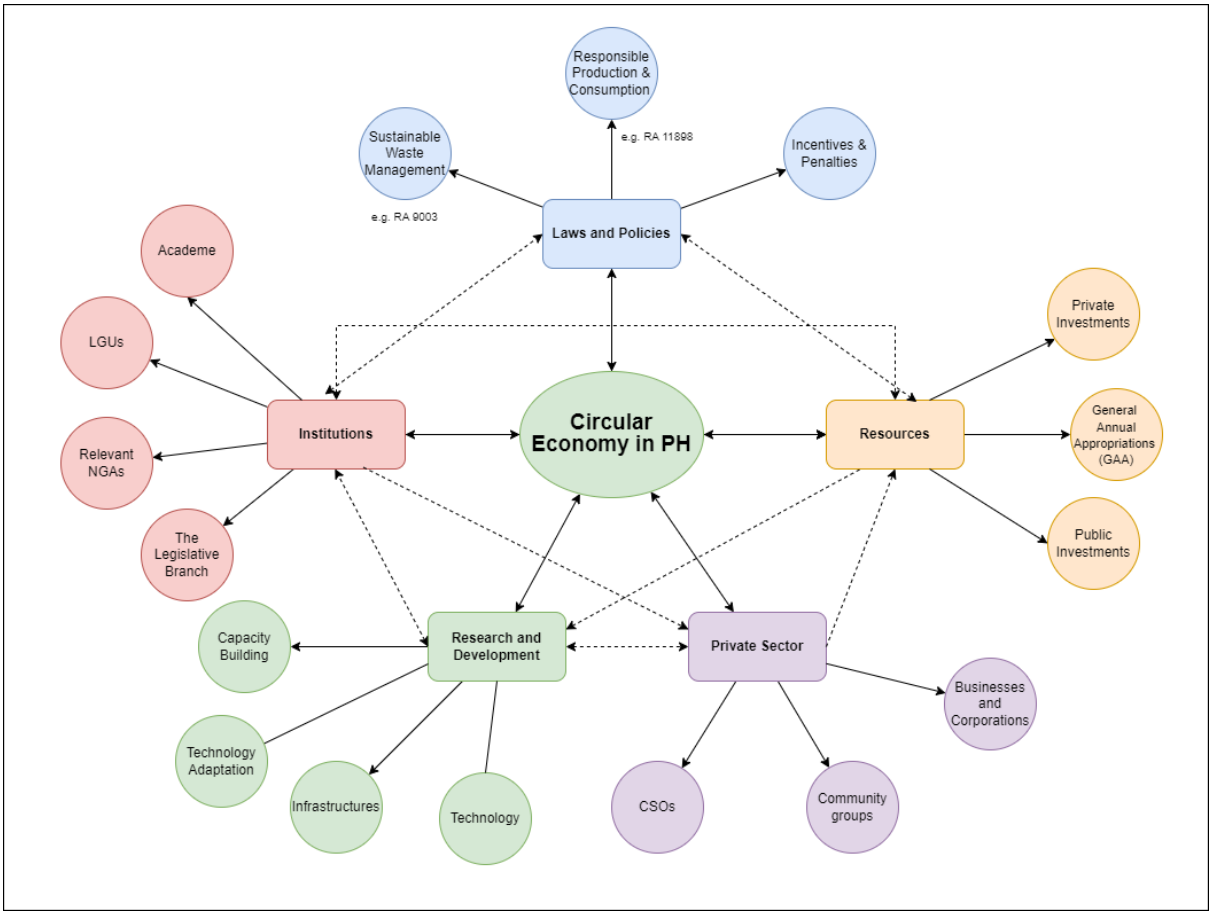


Figure 11: Circular Economy in the Philippines System Map

Source: PIDS, Circular Economy Pathways in the Philippines

A circular economy is not a single policy but a systemic transformation. The proposed Circular Economy Systems Map for the Philippines illustrates the complex interplay of policies, economic flows, and stakeholder actions required for this shift. It moves beyond the linear "take-make-dispose" model to a regenerative system where materials are continuously cycled back into the economy.

Within this intricate system, EPR is not a standalone instrument but a critical **driver and connector** that activates multiple parts of the map. Its role can be understood through three key functions:

1. **Creating the Economic Signal for Circular Design:** In a linear system, the environmental cost of packaging is externalized. The EPR system internalizes this cost by making producers financially responsible for their packaging waste. This creates a direct financial feedback loop (as shown in the systems map) from the «End-of-Life/Collection» node back to the «Production & Design» node. To minimize their costs, producers are incentivized to:
   - **Reduce Material Use:** Design lightweight packaging.
   - **Design for Recycling:** Use mono-materials and avoid complex laminates.
   - **Incorporate Recycled Content:** Create a reliable market for recycled materials.
2. **Fueling the Secondary Materials Market:** The systems map highlights the «Market for Secondary Materials» as a crucial node. EPR directly feeds this node by guaranteeing a steady, organized supply of post-consumer materials through its collection targets. However, supply alone is not enough. EPR's full potential is realized when coupled with **pull-mechanisms**, such as mandatory recycled content targets. This combination ensures that the materials collected by EPR programs have a guaranteed end-market, making recycling economically sustainable and attracting investment in advanced recycling infrastructure.
3. **Formalizing Material Flows and Integrating Stakeholders:** The map shows various actors, including the Informal Waste Sector (IWS). EPR provides the regulatory and financial framework to formally integrate the IWS into the «Collection & Sorting» node. By channeling EPR fees towards fair compensation,

safety training, and equipment for waste pickers, the system can enhance collection efficiency while delivering social equity. Furthermore, the data generated through EPR compliance reporting is essential for monitoring the entire system, identifying bottlenecks, and enabling evidence-based policy adjustments.

In essence, the Circular Economy Systems Map demonstrates that EPR acts as the **engine for material circulation**. It provides the regulatory pressure and economic incentive to close the loop, making circular economy principles—which are already resonant in Filipino culture through practices like sari-sari store refilling and repair—a central tenet of the modern economic system. Without an effective EPR driver, the system risks remaining a collection of disconnected initiatives rather than a coherent, self-reinforcing cycle of material use and reuse.

7. WAY FORWARD FOR EPR IN THE PHILIPPINES

The Philippines is one of the first countries in the ASEAN region to begin full implementation of its EPR system. It has been a long time coming – the journey to having an EPR act, according to anecdotal sources and some long-time environmental advocates, probably took almost two decades. Yet, as this report has discussed, EPR is still in its nascent stages and many challenges and so-called "birth pangs" remain. This includes the wider societal challenge of overall waste management, within a challenging socio-economic condition in the country. Environmental justice and other human rights considerations need to be factored in EPR implementation, and other waste management solutions and interventions.

Discussions on EPR implementation in the Philippines have also been closely linked to the circular economy. This is rightly so in recognition of the potential of EPR systems in contributing to the wider circular economy push. EPR can spur not just improved recycling and better waste management, but it can also be a catalyst for innovative approaches on product re-design, use of recycled content, and using more natural and environmentally friendly materials. In addition, EPR can also help create a secondary market for waste products and materials, resulting in job creation and economic benefits, most especially for the thousands of informal waste sector workers in the Philippines.

Thus, while much remains to be done for the success of EPR in the Philippines, there is great opportunity for EPR to contribute to achieving a circular economy on the country. It is within this context that the following recommendations and way forward for EPR in Philippines are presented below – how to address existing challenges of EPR in the country whilst contributing to the goal of circularity.

1. Continuous improvement and full implementation of basic waste management to support EPR and the shift to a circular economy

Priority Actions:

- Urgently finalize and disseminate the EPR Procedural Manual and Fines and Penalties guidelines to provide certainty.
- Link LGU financial support to their performance in basic waste segregation, which is a prerequisite for effective EPR.
- Create specific national capacity-building fund for LGU MRFs, tied to EPR compliance data from their jurisdiction.

It cannot be overemphasized that a fully functioning, established, and effective basic waste management is an essential ingredient not only for the success of EPR, but also for the shift towards a circular economy. It is not enough that there are good laws and policies in place – they must be properly and effectively implemented across all levels of government and society. The government needs to focus on the full and proper implementation of RA 9003 – enforcing segregation, collection, transport, and handling provisions, ensuring adequate and functioning MRFs and disposal facilities, and supporting waste management and recycling infrastructure not just in urban centers but across the country, among many others.

A key factor in ensuring the proper implementation and enforcement of waste management laws and policies is a clear institutional framework. As noted in the circular economy systems map, different institutions and stakeholders need to interact and work together within the web of the circular economy. There needs to be a whole-of-government complemented by a whole-of-society approach. The government needs to implement the functions of all concerned government agencies, clearly defining the roles of each avoiding overlaps which can lead to a waste of limited resources. The private sector – which includes businesses, waste service providers, and investors – must ensure compliance with all regulations, and find ways to support the needed financing and investments in EPR and other related measures. In addition, building an institutional framework also requires having the necessary technical capacity to implement EPR and understand the circular economy. Capacity building and strengthening of government institutions and other stakeholders must run in parallel with efforts at building a robust and effective institutional framework.

Furthermore, there needs to be equal efforts at waste reduction and other upstream measures as part of government efforts towards a circular economy. Downstream waste management improvements need to be complemented by efforts to reduce waste generated – otherwise the system will not be able to cope with the increase in waste. In addition to what was discussed above, complimentary policies can include SUP bans and regulating/limiting plastics in use. LGU efforts and ordinances need to be supported by a national law or policy on SUP use and regulation to avoid a piecemeal approach, ensuring uniform enforcement and application. This then enables different stakeholders to properly comply with both national and local laws and regulations in different parts of the country, resulting in ease of doing business through the smooth compliance with government mandates.

2. Improve and strengthen the implementation of the EPR Act of 2022

Priority Actions:

- Use the upcoming procedural manual to clearly distinguish "recycling" from "diversion" in compliance reporting.
- Establish a minimum fee structure for different packaging types, modulated (eco-modulated) based on recyclability to reward easily recyclable designs.
- Amend the EPR Act or its IRR to include mandatory recyclability design standards and phased-in recycled content targets for specific packaging types.

As of this writing, the EPR Act of 2022 has been in effect for a year and half. Despite the many positive gains – especially on the greater public awareness on the need to address plastic pollution and improve waste management – many challenges remain. The national stakeholder consultations and the discussions in this report highlighted many of these – yet they are at the same time opportunities to improve the system towards its success. A more inclusive, transparent, and participatory EPR implementation and program will not only make the system more effective, it will also foster a sense of cooperation and collaboration among all stakeholders. EPR makes producers primarily responsible for dealing with the waste through effective EPR schemes and programs. However, both the government and the consuming public have an equally important role to play in EPR implementation – government needs to properly and efficient implement the program, especially through the fair and equal application of mandates; while consumers need to follow EPR mandates and schemes through proper segregation and disposal, as basic requirements.

Clear and unambiguous guidelines are also essential for the success of EPR, and its effective contribution towards a circular economy. The immediate finalization, release, and implementation of missing rules and regulations are critical for the continued effective implementation of the law. Several of these guidelines are in the pipeline and are being finalized by the DENR, including: i) EPR Act Procedural Manual; ii) final certification and auditing guidelines; and, iii) rules on fines and penalties.

There are also other areas for improvement which the government can clarify. First, there needs to be clear and unambiguous rules on the use of appropriate recycling and disposal technologies by obliged enterprises and PROs in their respective EPR Programs. There needs to be alignment and compliance with other environmental laws and considerations such as with the Clean Air Act, Clean Water Act, and the Climate Change Act, among others. For example, guidelines on the use of co-processing or waste-to-energy facilities must align with other environmental laws and regulations. Second, recycling targets must also be mandated for EPR to be effective. Current rules only require diversion – or the collection of the plastic waste. The obliged entity or PRO can decide to either landfill the product, recycle, or send it for co-processing or to a WTE facility, among others. Lastly, there needs to be a determination of EPR fees – not just EPR costs – in the implementation of EPR programs. Mandatory rules on the amount and allocation of EPR fees should ideally be provided. This will allow for the efficient and fair use of resources by concerned stakeholders. Financial support for basic waste management, particularly to LGUs tasked, can also be allocated in support of EPR implementation.

3. Support development of a robust and people-centered and inclusive market for secondary materials alongside EPR

Priority Actions:

- The DENR and DTI should collaborate on a National Recycled Content Mandate for specific product categories (e.g., PET bottles, non-food HDPE containers) to create guaranteed demand for secondary materials.
- EPR programs should be required to demonstrate how they provide fair and formal compensation to IWS partners, audited as part of their compliance.

One of the missing elements in the EPR ecosystem in the Philippines is a robust and capable market for secondary materials. Although collection efforts and overall waste management systems have seen improvements in recent years – including with the mandate of EPR Programs – the market for secondary materials leaves room for both improvement and growth. Most waste products with potential value are either disposed of in landfills, recycled in limited quantities, or shipped out and exported to other countries with better infrastructure and waste market conditions. In short, the waste remains low value and its economic not maximized. Thus, there is a clear need – or perhaps an opportunity – to develop market strategies and mechanisms for recycling, alongside EPR implementation, and as part of circular economy efforts.[77]

A logical starting point to develop a secondary market for waste is to mandate the use of secondary materials (including recycled content) in the supply and production chain. Current laws, including the EPR Act of 2022, do not provide for these requirements. They remain as voluntary options for obliged entities, with very limited on-going examples of companies which use recycled content, or incorporate secondary market considerations into their supply chains. Given that the EPR system already in place already allows for better collection of waste materials which can potentially generate value, there is an opportunity to capitalize on this and allow for the system to evolve into a robust secondary market. Here we see the emergence of the link between the commercial economy and the circular economy. This not only benefits producers and the overall waste management system, but also brings the country closer to a circular economy.

Developing a secondary market for waste materials also benefits, and impacts, the informal waste sector in the Philippines. IWS workers have a critical role to play in this evolving market – they will be the frontlines of the supply chain, ensuring that materials of value are properly sorted and collected to reach the necessary facilities. And when the market puts more monetary value on the collected waste, IWS workers should naturally benefit more as players in the waste supply chain. Therefore, environmental justice and just transition considerations must be carefully considered in the development of secondary markets for waste.

This secondary market should be people-centered and inclusive. Consumers should not be made to carry the burden of developing the secondary market, with costs being passed to them driving up the prices of goods and services. IWS workers, organizations, cooperations, and MSMEs must also be included in the design and operation of the market, in consideration of their invaluable contribution to the basic waste management system. Lastly, the economic benefits of the secondary market must find its way back to consumers and IWS workers alike. This can be done through improved waste management systems, more environmentally friendly and sustainable products, and better benefits (i.e., in the form of just wages) for IWS workers and MSMEs.

4. Develop a clear circular economy framework and roadmap, guided by critical elements, with EPR as a key driver

Priority Action: The National Economic and Development Authority (NEDA) takes the lead in developing this cross-sectoral framework, ensuring it is integrated into the next Philippine Development Plan (PDP).

77 Note: The World Bank's Plastic Substitution Tradeoff Estimator was used in the Philippines to compare the impacts of 10 major plastic products with up to four potential substitutes for each one, and the results of this comparison are presented in a supplement to this report—"External Costs of Common Plastics and Alternatives in the Philippines." The Estimator provided an External Cost Analysis, which was developed by quantifying and monetizing the effects that substituting an alternative for a plastic product would have on societal and environmental welfare. See https://www.worldbank.org/en/country/philippines/publication/market-study-for-philippines-plastics-circularity-opportunities-and-barriers-report-landing-page

The recommendations so far discussed in this report will all need to be aligned and synergized to be effectively and properly implemented. There is therefore a need to develop a comprehensive circular economy framework and roadmap for the Philippines to serve as the overall guiding blueprint towards circularity in the country. This overall circular economy framework must incorporate and careful consider the enabling factors and conditions, and the recommendations discussed in the report thus far.

The framework must also critically align with other sectoral plans and programs. As has been said, circular economy will not operate in a vacuum; and a siloed and misaligned approach to its implementation will most likely end in wasted efforts and inevitably failure. Circular economy does not only involve waste management – it will involve industry and trade, commerce and finance, natural resource use and agriculture, climate goals and targets, and even the service industry such as tourism, among many others. It demands a paradigm shift in the whole of society – a change in the way goods and services are produced and consumed. This also requires a shift in the mind-set of government decision-makers, politicians, and civil servants alike. Circular economy must move beyond being a "buzzword" that looks good on paper, to becoming an active part of policymaking and governance considerations.

Critical to all this to recognize existing Filipino cultures, practices, and traditions closely linked to the circular economy. As has been emphasized, there is no one-size-fits-all in EPR implementation and in the path towards a circular economy. Each country would need to take into consideration the local conditions and contexts. For the Philippines, it is important to recognize existing traditions and practices on reusing, refurbishing, and the ingenuity in finding value and purpose to discarded items. This mind-set can be capitalized to jump-start and gather support for circular economy efforts; and also to improve EPR implementation. For the general public, they can be made to realize that EPR and a circular economy can also prove valuable not through a better overall environment but also in improving socio-economic conditions for the vulnerable and marginalized.

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