



THE IMPACT OF EXTENDED PRODUCER RESPONSIBILITY: A ONE-YEAR REVIEW OF EPR IN THE PHILIPPINES

A White Paper Exploring Key Outcomes, Challenges, and Best Practices from the First Year of EPR Implementation in the Philippines

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ABBREVIATIONS

ASEAN	Association of Southeast Asian Nations
AUP	Agreed-Upon Procedures
BARMM	Bangsamoro Autonomous Region in Muslim Mindanao
CAR	Cordillera Administrative Region
CDO	Cagayan de Oro
COA	Commission On Audit
CY	Calendar Year
DENR	Department of Environment and Natural Resources
ECAR	EPR Compliance Audit Report
ECR	EPR Compliance Report
EMB	Environmental Management Bureau
EPR	Extended Producer Responsibility
EU	European Union
EXN	Extended Resources Network
FIRB	Fiscal Incentives Review Board
FIRMS	Fiscal Incentives Registration and Monitoring System
FMCG	Fast-Moving Consumer Goods
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
HDPE	High Density Polyethylene
IEEP	Institute for European Environmental Policy
IPAs	Investment Promotion Agencies
IWS	Informal Waste Sector
IWWs	Informal Waste Workers
KG	Kilogram
LDPE	Low Density Polyethylene
LGUs	Local Government Units
LLM	Large Language Models
LLDPE	Linear Low Density Polyethylene
M	Million
MMDA	Metropolitan Manila Development Authority
MNCs	Multinational Corporations

MRFs	Materials Recovery Facilities
MSMEs	Micro, small, and medium-sized enterprises
MSW	Municipal solid waste
MT	Metric tons
NCR	National Capital Region
NEC	National Ecology Center
NGOs	Non-governmental organization
OECD	Organization for Economic Co-operation and Development
OEs	Obligated Enterprises
PBSP	Philippine Business for Social Progress
PCNC	Philippine Council for NGO Certification
PCX	Plastic Credit Exchange
PE	Polyethylene
PET	Polyethylene terephthalate
PH	Philippines
Php	Philippine peso
PP	Polypropylene
PPP	Public-private partnerships
PROs	Producers Responsibility Organization
R&D	Research and development
RA	Republic Act
RDF	Refuse-Derived Fuel
SEC	Securities and Exchange Commission
SIPP	Strategic Investment Priority Plan
SKU	Stock Keeping Unit
SLF	Sanitary landfill
SMEs	Small, Medium Enterprise
SWM	Solid Waste Management
SWMPs	Solid Waste Management Plans
UNEP	United Nations Environment Programme
UNDP	United Nations Development Program
URC	Universal Robina Corporation
WtE	Waste-to-Energy
WWF	World Wildlife Fund



EXECUTIVE SUMMARY

The implementation of the Extended Producer Responsibility (EPR) Act in the Philippines marks a significant milestone in the country's efforts to address plastic waste management challenges. This white paper presents a comprehensive analysis of the first year of EPR implementation, examining its impacts, challenges, and opportunities for improvement.

After one year of implementation, EPR efforts have shown promising developments in corporate engagement and innovation, particularly among larger enterprises. As of August 2024, 43.99% of an estimated 2,130 covered obliged enterprises have formally registered their EPR programs, with compliance rates increasing by 45.95% from 642 initially in 2023 to 937 in 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.

However, significant disparities and challenges have emerged across various dimensions of implementation. Micro, Small and Medium Enterprises (MSMEs) face considerable hurdles in compliance, primarily due to limited resources and infrastructure access. The geographical divide between urban and rural areas remains pronounced, with rural regions struggling to establish effective waste management systems and recycling infrastructure.

Key findings from the analysis include:



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.

The analysis reveals systemic challenges that require immediate attention:

1. **Infrastructure gaps in rural and underserved areas** continue to hamper effective implementation
2. **Data reporting and verification systems need strengthening** to ensure accuracy and prevent double-counting
3. The **informal waste sector remains inadequately integrated** into formal EPR frameworks
4. **Financial barriers limit MSME participation** and innovation in sustainable practices

To address these challenges, this paper recommends a comprehensive approach focusing on:

- **Strengthening financial support mechanisms** through targeted fiscal incentives and green financing options
- **Enhancing infrastructure development**, particularly in rural areas, through public-private partnerships
- Improving stakeholder engagement by **creating formal integration pathways** for informal waste workers and MSMEs
- **Establishing stronger transparency and accountability mechanisms** through standardized reporting protocols and digital tracking systems
- **Addressing geographical disparities through targeted infrastructure development** and capacity-building initiatives

Looking ahead, the success of the EPR program will depend on sustained commitment from all stakeholders and the ability to adapt to emerging challenges. The growing emphasis on circular economy principles and increasing consumer awareness presents opportunities for the Philippines to establish itself as a regional leader in sustainable waste management practices.

This white paper concludes that while the first year of EPR implementation has established a foundation for progress, significant work remains to create a more inclusive, efficient, and sustainable waste management system. The recommendations provided offer a roadmap for strengthening the program and ensuring its long-term success in contributing to environmental protection and sustainable development in the Philippines.

The findings and recommendations presented in this report are based on extensive data analysis, stakeholder interviews, and examination of current practices across different regions and sectors. They provide a framework for policymakers, businesses, and other stakeholders to enhance the effectiveness of EPR implementation and work towards a more sustainable future for waste management in the Philippines.



INTRODUCTION

The global challenge of plastic waste management has reached critical levels, with developing countries like the Philippines bearing a significant burden. Municipal solid waste (MSW) generated in the country is composed of residuals, recyclables, and special or hazardous waste, and the biggest contributor being biodegradable waste (**Figure 1**). As one of the top contributors to ocean plastic pollution, generating an estimated 2.15 metric tons of plastic consumption annually (WWF Philippines, 2020) with 68% of the plastic after consumed being leak to the environment and disposal, the Philippines faces an urgent need for comprehensive solutions. This dire situation, exacerbated by rapid urbanization, industrialization population growth, and changing consumption patterns, necessitates immediate and far-reaching action.

The composition of recyclables in the total MSW in the Philippines is 27.78%, with a large part made up of rigid plastic waste (10.6%), as illustrated in **Figure 2**. Meanwhile, **Figure 3** shows that a total of 17.98% of MSW is composed of residual waste, with 9% being flexible plastic waste and 8.98% made up of textiles, rubber, leather, and fiberglass.

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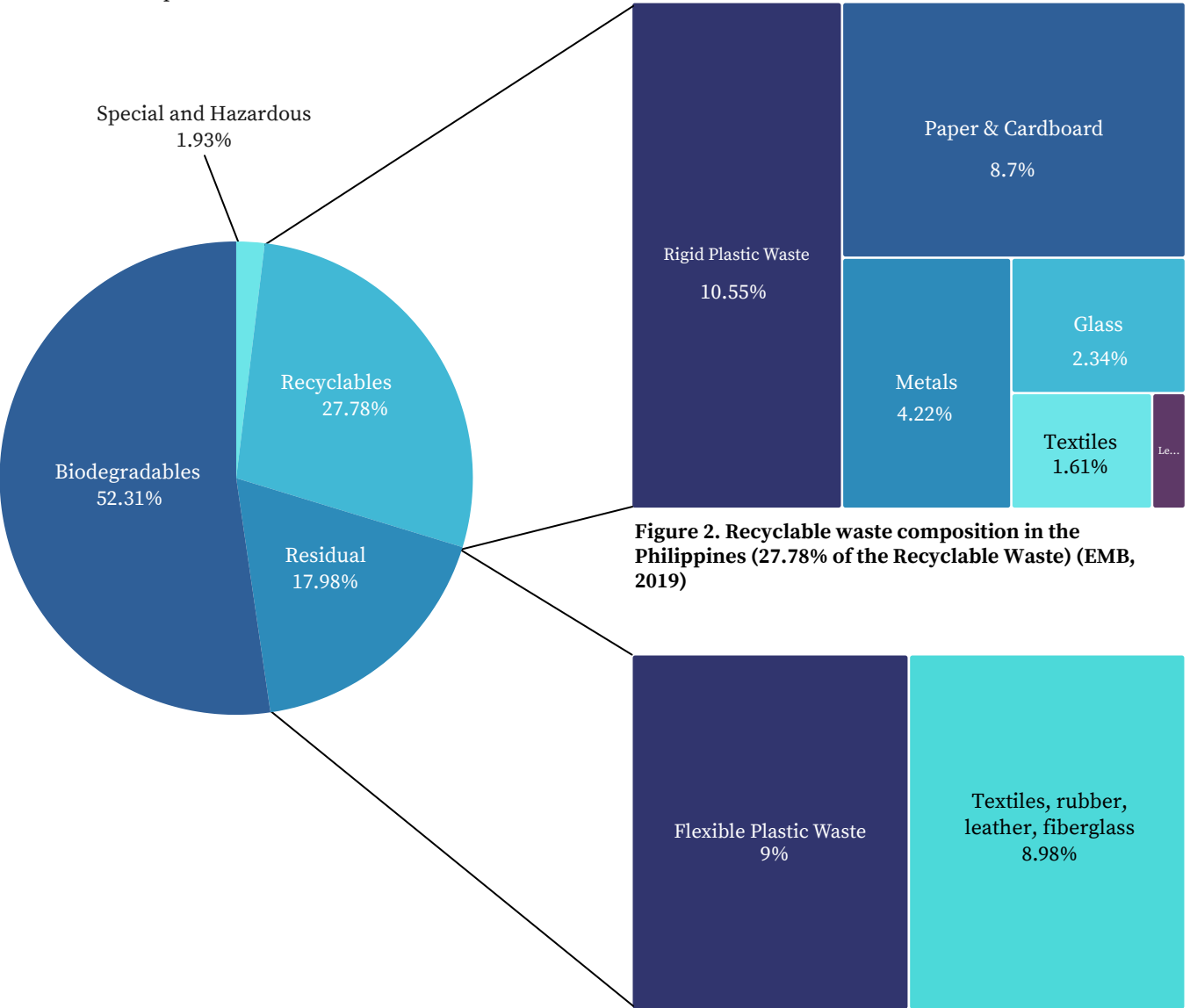


Figure 1. The percentage of Composition of the MSW Generated in the Philippines (World Bank, 2022)

Figure 3. Residual Waste composition in the Philippines (17.98% of the Residual Waste) (World Bank, 2022)

Extended Producer Responsibility in the Philippines

EPR is a principle designed to hold product manufacturers accountable for different stages throughout the complete lifespan of their products, encompassing aspects like product retrieval, recycling, and ultimate disposal when the product reaches the end of its utility (Lindhqvist, 2000; IEEP, 2020). Initially, it encourages manufacturers to craft more resource-efficient products, thereby reducing their ecological footprint through practices like eco-design. Subsequently, it focuses on improving the collection and sustainable disposal of waste products, fostering increased reuse and recycling rates (Rezero, 2017).

EPR is commonly applied to specific waste product categories, with the main items including small consumer electronics, packaging, tires, vehicles/auto batteries, and other products (Kaffine & O'Reilly, 2015). Originating in the early 1990s within the European Union (EU), EPR has since been widely implemented globally, with over 400 EPR schemes currently operational worldwide (IEEP, 2020). However, the adoption of EPR frameworks varies significantly, shaped by factors like economic status, waste infrastructure, and policy structures.

Recognizing the urgency of the situation, the Philippine government enacted Republic Act 11898 (RA 11898), the Extended Producer Responsibility (EPR) Act in 2022. This landmark legislation observes a “follow the brand” mandate, placing the focus on brand owners, manufacturers, and importers of plastic packaging to manage the waste generated from their products, from production to end-of-life. As defined in the Act, EPR “shall refer to the environmental policy approach and practice that requires producers to be environmentally responsible throughout the life cycle of a product, especially its post-consumer or end-of-the stage.”

Regulatory Foundation

The cornerstone legislation for waste management efforts in the Philippines is the Ecological Solid Waste Management Act (RA 9003) enacted in 2000. This law mandates local governments to establish comprehensive waste management programs, including the segregation of waste at its source and the establishment of Materials Recovery Facilities (MRFs). Building upon this foundation, the Department of Environment and Natural Resources (DENR) actively promoted sustainable practices by revising RA 9003 into RA 11898, the Extended Producer Responsibility Act of 2022, effective from August 12, 2022.

RA 11898 sets guidelines for waste reduction through redesign, inclusion of recycled content, refilling, appropriate labeling, and waste recovery programs focusing on recovery, diversion, and ensuring proper waste management. It promotes R&D for enhanced waste techniques, private sector involvement, and collaboration between local governments, national agencies, and NGOs. Market-based tools, public engagement, and educational integration are key, including eco-friendly product adoption, recycled materials, refilling systems, and awareness campaigns. Strategies like redemption schemes, recycling, waste transportation, and coastal cleaning are emphasized, along with establishing disposal facilities and partnerships with local entities and informal waste sectors (WWF, 2024).



Stakeholders in the EPR Scheme

The effective implementation of EPR schemes requires the involvement of multiple stakeholders, each playing crucial roles in the waste management ecosystem (Table 1). These stakeholders include:

- 1. **National Ecology Center (NEC):** Supervising implementation, auditing, and ensuring compliance.
- 2. **Producer Responsibility Organizations (PROs):** Facilitating collective action, engaging with stakeholders, and monitoring compliance.
- 3. **Auditors:** Evaluating adherence to EPR regulations and ensuring data accuracy.
- 4. **Producers/Manufacturers:** Adhering to regulations, providing data, and contributing to policy development.
- 5. **Collectors (LGUs, private sector, junk shops, informal waste workers):** Gathering and sorting recyclable materials.
- 6. **Recyclers/Diverters:** Processing collected materials for use in new products or energy sources.

Despite the promising framework the EPR Act provides (Figure 4), its effective implementation faces several challenges. These include inadequate waste management infrastructure, limited public funding, and a lack of recycling capacity, particularly among MSMEs. The prevalence of mixed waste collection and the predominance of low-value plastic packaging further complicate waste management efforts. Additionally, the absence of robust policies on single-use plastics and the limited integration of the informal waste sector into formal management systems pose significant obstacles to achieving comprehensive waste reduction and recycling goals (World Bank, 2022).

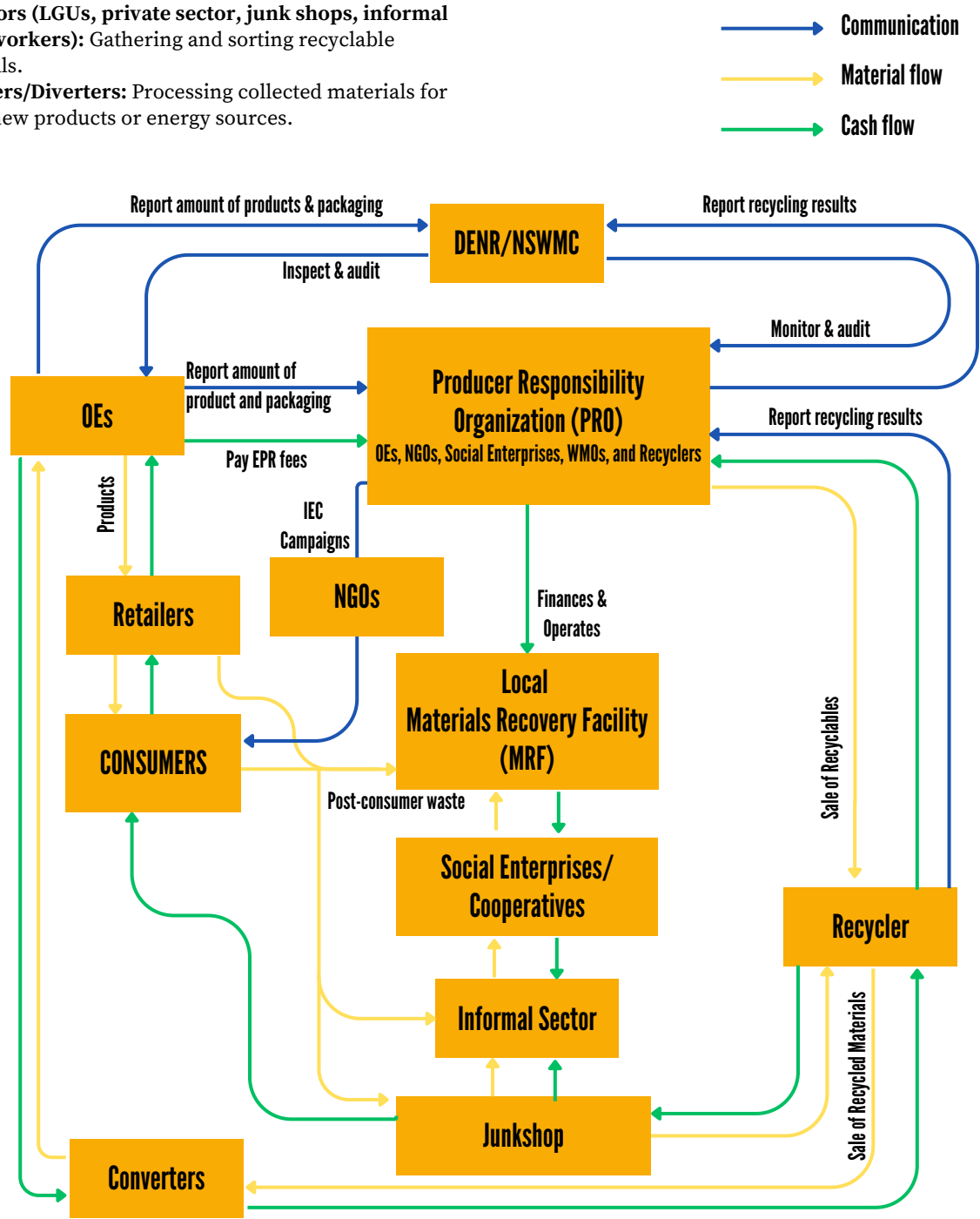


Figure 4. Intended EPR proposed scheme in the Philippines - adjusted based on (AMH, 2020)

Stakeholder	Role in EPR Ecosystem
National Government: National Ecology Center (NEC)	• Provide technical expertise, training, and network services to support ecological waste management, including modeling solid waste facilities and auditing waste minimization practices. • Establish and manage a solid waste information database and a publicly accessible digital EPR Registry to track compliance by obliged enterprises and PROs. • Promote recycling through a national network to enhance recycling opportunities, while monitoring compliance and addressing citizen complaints to improve adherence to the law. • Conduct an assessment within one year on the volume of waste for priority inclusion in the EPR scheme, ensuring the data is reliable, secure, and transparent.
Producer Responsibility Organization	• Facilitating collective action among OEs, engaging with government agencies, LGUs, informal waste collectors, and other stakeholders, and promoting collaboration and the sharing of resources to meet EPR targets • Collecting and managing data on plastic waste generation, recovery, and recycling to monitor progress and inform decision-making, monitoring the compliance of their member companies with EPR regulations and provide support to ensure adherence
Auditor	• Evaluating the OE or PRO's adherence to EPR regulations and guidelines • Ensuring the accuracy and completeness of reported plastic packaging footprint, recovery, and diversion data
Obliged Enterprise	• Adhering to Philippine EPR regulations and providing accurate data on product-related waste, contributes to the development of effective waste management policies • Working with producers, waste management authorities, and local communities to implement effective EPR schemes • Paying fees to EPR schemes based on the packaging material they place on the market • Providing information to producers and consumers on how to use EPR schemes
Collector: LGUs, Private sector, Junk shop, IWW	• Gathering recyclable materials from households, businesses, and other sources • Sorting collected waste and removing contaminants and impurities • Delivering collected materials to recycling facilities or processing plants
Recycler/ Diverter	• Collecting recyclables and recovered materials to be used in the production of new products, diverting waste from disposal sites and the environment • Providing the services, and ensuring compliance with government agency standards and guidelines for high-quality recycling

Table 1. The key stakeholder groups and their roles within EPR schemes (Source: WWF, 24 and WWF Philippines, 6)



Current Status of EPR Implementation

As of August 2024, 43.99% of an estimated 2,130 covered obliged enterprises have formally registered their EPR programs. The compliance rate among companies has increased by 45.95% from 642 initially in 2023 to 937 companies (Figure 5), of these, 149 are obliged enterprises. Albeit not mandated, 299 micro, small, and medium-sized enterprises (MSMEs) still registered, with many reporting substantial reductions in their waste footprints (Wang, 2024). The total audited footprint reported 486,000 MT of plastics and of this, 163,000 MT was collected and diverted (Figure 6) (Beitien, S., & Reyes, A., 2024).

The eight registered Producer Responsibility Organizations (PROs) in the Philippines play a crucial role in coordinating EPR activities, developing frameworks for data reporting and monitoring, and engaging in capacity-building efforts (WWF-Philippines, 2024). Various stakeholders, consisting of local government units (LGUs), non-governmental organizations (NGOs), and community groups, have also played a supportive role in EPR implementation. Each stakeholder and their role in detail can be found in Table 1.

The informal waste sector (IWS) remains a vital yet challenging component of the EPR landscape, with ongoing efforts to formalize and integrate these workers into the EPR framework. Audit and monitoring systems have seen improvements, with clearer guidelines and standards for reporting and verification of EPR compliance established.

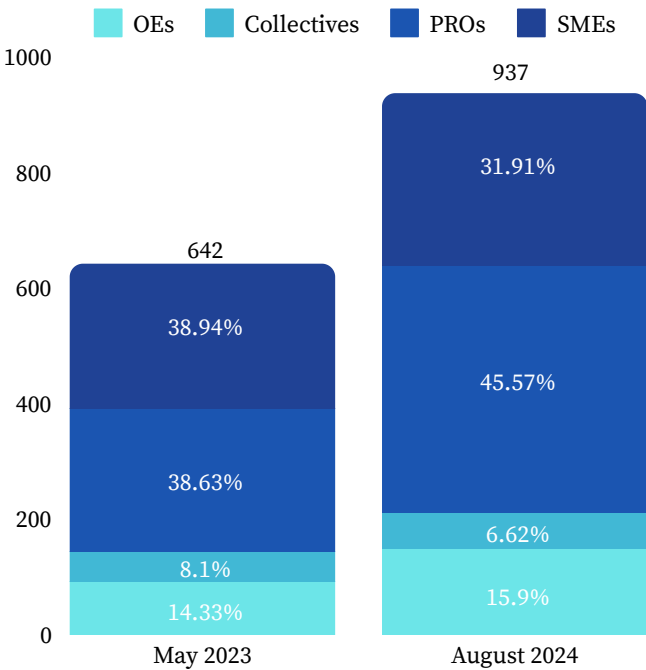
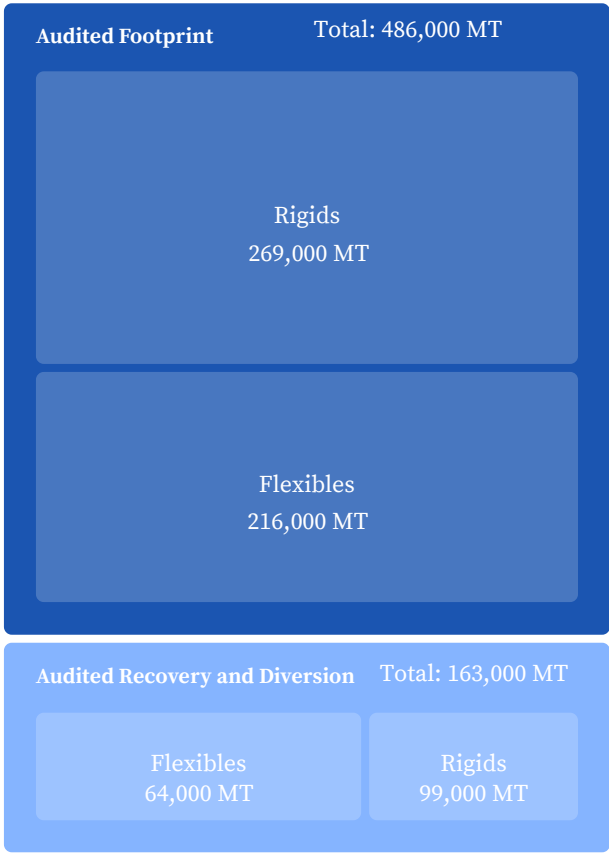


Figure 5. Submission of EPR Programs - as of May 2023 and August 2024 (ATTY. JONAS R. LEONES, 2024)

However, challenges persist, including limited reports on the traceability of plastic waste and the recyclability of waste diversion, which don't clearly show the results of the supply chain for plastic credit. Additionally, there are instances of inadequate auditing leading to double-counting of recycled waste.

Figure 6. Plastic packaging footprints and diversion (ECAR, August 2024)



Intended Benefits of EPR Act

The EPR Act of 2022 is expected to bring numerous benefits, including:

- 1 **Fiscal incentives for obliged enterprises and PROs**
- 2 **Reduced waste disposal and increased recycling rates**
- 3 **Technological and organizational innovation in waste management**
- 4 **Diversified material supply and improved resource security**
- 5 **Enhanced supply chain organization and efficiency**
- 6 **Promotion of green growth and job creation**
- 7 **Improved upstream activities and promotion of recycled materials**

Study Objectives

This white paper aims to provide a comprehensive evaluation of the initial implementation of EPR law in the Philippines. By examining the policy landscape, implementation process, and stakeholder engagement, this study seeks to identify gaps, challenges, and opportunities in the current EPR framework.

Specifically, this research will:

1. Assess the current EPR implementation scheme, evaluating its strengths, weaknesses, and gaps.
2. Identify specific challenges within the existing system, including infrastructure, regulatory, financial, and stakeholder engagement issues.
3. Propose actionable recommendations and strategies to enhance EPR implementation.
4. Underscore best practices in municipal solid waste management adaptable to EPR in the Philippines.
5. Facilitate stakeholder dialogue to strengthen collective efforts towards sustainable waste management.
6. Evaluate the realization of anticipated benefits, comparing actual outcomes with projected results.

By focusing on key areas including fiscal incentives, stakeholder engagement, upstream innovation, administrative procedures, and infrastructure challenges, this white paper aims to contribute to the development of a more effective and sustainable EPR framework in the Philippines, ultimately driving progress towards a cleaner, more resource-efficient future.



From The Republic Act No. 11898 of the Republic of the Philippines: “Extended producer responsibility shall refer to the environmental policy approach and practice that requires producers to be environmentally responsible throughout the life cycle of a product, especially its post-consumer or end-of-the stage”.

METHODOLOGY

This study presents a comprehensive analysis of the implementation and impact of the EPR framework on the waste management system in the Philippines. Our research methodology was meticulously designed to provide a thorough examination of the changes brought about by the EPR law, comparing the pre-EPR era (prior to 2022) with the current EPR era (2022 onward).

Data Collection

Our research team employed a robust, multi-faceted approach to data collection, utilizing both primary and secondary sources to ensure a comprehensive dataset for analysis. The secondary data collection process involved an extensive literature review, encompassing a wide range of resources including online databases, newspapers, reports, and social media platforms. We analyzed over 150 datasets provided by key government agencies, including the DENR and the Environmental Management Bureau (EMB). Additionally, we scrutinized published data, reports, press releases, official communications, and recordings of relevant events to gather a holistic view of the EPR landscape.

To complement and verify the secondary data, we conducted primary research through interviews with various stakeholders, including representatives from corporations, MSMEs, and informal waste workers. We also distributed surveys and questionnaires to relevant parties within the EPR ecosystem. This primary data collection effort was crucial in capturing current perspectives and experiences directly from those involved in the implementation of the EPR framework.

Our data collection process was strategically focused on gathering information related to the nine key benefits of the EPR law for stakeholders across the supply chain, as outlined in the previous chapter. These benefits include fiscal incentives, reduced waste disposal, increased recycling rates, technological and organizational innovation, diversification of material supply sources, enhanced resource security, improved supply chain organization, promotion of green growth, and advancements in upstream activities.

Analysis Approach

Upon completion of the data collection phase, our team embarked on a rigorous and systematic analysis process. The collected data was meticulously categorized based on its relevance to the intended benefits of the EPR law. This categorization allowed for a structured approach to both quantitative and qualitative analyses. For the quantitative analysis, our team evaluated dates and timelines to track

the progress of EPR implementation. We calculated averages from multiple datasets containing similar information to ensure reliability and reduce the impact of outliers. Numerical data was consolidated to provide a comprehensive overview of the ecosystem in quantifiable terms. Furthermore, we developed specific metrics for each of the nine key benefits to measure the tangible impact of the EPR law.

Our qualitative analysis employed a multi-pronged approach to ensure depth and accuracy. We evaluated the data based on predefined metrics, allowing for consistent assessment across different datasets. To enhance our analytical capabilities, we utilized advanced Large Language Models (LLM) to compare our analysis against established metrics, providing an additional layer of validation. We also employed data triangulation techniques, cross-referencing information from various sources, including our primary data from interviews and surveys. This method helped to verify findings and identify consistent patterns across different data points.

The collected data was systematically organized by key stakeholder groups, including government entities, PROs, collectives, OEs, collection centers, recyclers, diverters, auditors, and junkshops. This organization allowed for a nuanced understanding of how the EPR law has impacted different segments of the waste management ecosystem.

Our team conducted an in-depth analysis to extract meaningful insights that clearly demonstrate the roles of each stakeholder and their achievements after the first year of EPR implementation in the Philippines. This detailed examination aimed to highlight not only the direct outcomes but also broader trends and systemic shifts within the waste management framework, offering a well-rounded view of the law's effectiveness.

Limitations and Ethical Considerations

In the interest of transparency and ethical research practices, it is important to note certain limitations of our study. To protect the privacy of our interviewees and survey respondents, all primary data sources have been kept anonymous. Any specific names or organizations mentioned in this report are based solely on publicly available information.

Our research encompassed a diverse range of 60 stakeholders across the waste management ecosystem, comprising 10 government representatives, 5 PROs, 14 collectives, 7 OEs, 9 buy-back centers/recyclers, 6 diverters, and 9 junkshops.

While our methodology strives for comprehensiveness, we acknowledge that the availability of data, particularly for the period immediately following the EPR law implementation, may not be exhaustive. Additionally, as the EPR implementation is an ongoing process, some of the impacts and changes observed may still be in flux, potentially affecting long-term conclusions.

Despite these limitations, our rigorous methodology allows for a comprehensive analysis of the EPR implementation in the Philippines. By combining extensive data collection with advanced analytical techniques, we aim to provide valuable insights into the effectiveness and impact of the EPR law on various stakeholders within the waste management system. This approach ensures that our findings are as accurate and reliable as possible, offering a solid foundation for future policy decisions and improvements in the EPR framework.





CHAPTER 1

EPR IMPLEMENTATION: ECOSYSTEM, STAKEHOLDERS, AND FIRST-YEAR OUTCOMES

The first year of EPR implementation in the Philippines has set in motion a complex ecosystem of stakeholders, processes, and outcomes that are reshaping the country's approach to waste management. This section provides a comprehensive overview of the EPR landscape as it has unfolded since the Act's inception. We examine the intricate web of participants—from corporations and government bodies to informal waste workers and local communities—and their evolving roles within the new regulatory framework. By analyzing the mechanisms put in place for EPR implementation, we gain insight into how theory has translated into practice across different sectors and regions. This exploration encompasses the strategies employed, the partnerships formed, and the innovative solutions developed in response to the Act's requirements. Crucially, we assess the measurable impacts achieved thus far, examining collection rates, recycling percentages, and other key performance indicators that offer tangible evidence of the EPR program's effectiveness. This holistic analysis not only highlights the progress made but also identifies areas where the implementation has fallen short of expectations, providing a balanced view of the EPR Act's first-year performance and its implications for the future of waste management in the Philippines.

Key Stakeholders: Driving Circularity through Collaboration

The success of the EPR framework in the Philippines hinges on the active participation and coordination of a diverse set of stakeholders. The data gathered paints a picture of an evolving ecosystem where larger corporations, the informal waste sector, local governments, and various other entities are all playing pivotal roles.

Corporate Leadership and Innovation

Larger corporations like Holcim and Nestlé Philippines have emerged as trailblazers, leading the way in developing and sharing best practices for EPR compliance and reporting. These companies have made significant investments in recycling technologies and partnerships, such as Nestlé's collaborations with Republic Cement and Plastic Credit Exchange to achieve plastic neutrality (Philstar, 2021).

Building upon this foundation of corporate leadership, the collaborative landscape of plastic waste management in the Philippines has expanded into a comprehensive multi-stakeholder ecosystem. This technological innovation complements the traditional corporate partnerships, such as Universal Robina Corporation's establishment of Greencycle Innovative Solutions Inc. and their collaboration with Pasig's local government. The initiative demonstrated by early adopters has sparked a cascade of strategic partnerships, with companies like PHILUSA Corporation, Fisher Mall, and Coca-Cola Philippines

engaging with Plastic Bank to simultaneously address ocean-bound plastic waste and community development. In the industrial sector, Bostik Philippines has demonstrated meaningful impact through its partnerships with Plastic Bank and Holcim Philippines Inc., implementing comprehensive plastic waste prevention and conversion programs.

The manufacturing sector has also responded to this momentum, with Alaska Milk Corporation and Jollibee Foods Corporation establishing specialized facilities and co-processing initiatives that align with circular economy principles. The Philippine Business for Social Progress Inc. (PBSP) has emerged as a crucial orchestrator of these efforts, coordinating with multiple waste diverters including Evergreen Labs, Sentinel UpCycling Technologies, and The Plastic Flamingo. These collaborative initiatives represent the evolution and maturation of the initial corporate-led EPR movement into a sophisticated network of partnerships addressing plastic pollution through multi-faceted approaches, from advanced technological solutions to community engagement programs.

The private sector's proactive engagement has been a notable catalyst for kickstarting the ecosystem, with 82% of registered brand owners successfully complying with the Act (**Figure 7**). Over 45% of OEs are now opting to authorize PROs to implement their EPR programs, streamlining compliance processes. This has enabled more effective communication of requirements to suppliers, particularly smaller enterprises and local governments that have historically faced challenges in accessing such innovations.

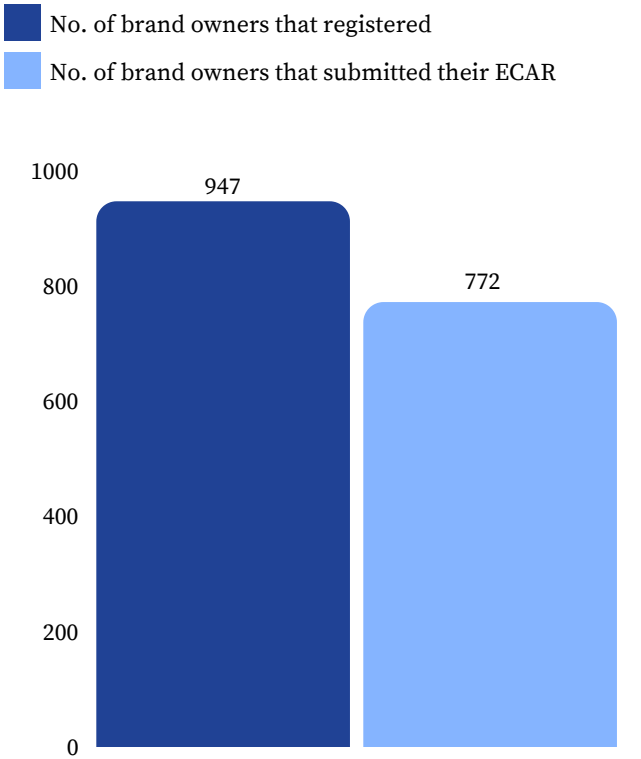


Figure 7. Status of EPR Implementation in the total of EPR submission - October 2024

MSME Challenges

While large corporations have made significant strides in adopting sustainable practices and complying with the EPR Act, MSMEs face numerous challenges that hinder their ability to follow suit. Limited access to infrastructure and established supplier networks makes it difficult for these businesses to respond quickly to disruptions and adapt to the new requirements (World Bank Group, 2021).

MSMEs often lack the necessary resources and support to effectively comply with the EPR Act. While larger corporations may have robust tracking systems in place, smaller suppliers and informal collectors often lack the infrastructure for detailed reporting, leading to gaps in overall visibility within the supply chain (Globe Telecom, Inc., 2023).

Furthermore, the ongoing reliance on traditional multi-layered plastic packaging continues to be a significant hurdle for MSMEs. These businesses often cite barriers such as costs and a lack of market-ready alternatives as reasons for their inability to adopt more sustainable packaging options (World Bank, 2022).

Empowering Local Governments

LGUs have taken on a central role, allocating budgets for the implementation of solid waste management programs (Figures 8 and 9). However, these facilities require enhanced infrastructure and consistent operational practices to scale effectively. Our research highlights the need for increased government budget allocation and broader community engagement to fully improve recycling rates, particularly in rural areas (Lena, 2024). Interviews with LGUs indicated a desire for joint collaboration with private sector actors to create clear pathways for operational improvements and integrate informal waste collectors into the formal system (LGU interview, 2024).

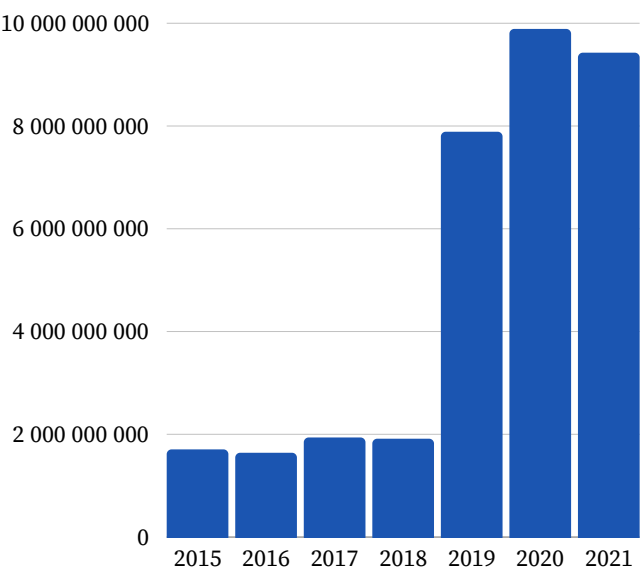


Figure 8: Government Agencies (DENR-EMB, MMDA, 250 LGUs) Budget for Solid Waste Management Program (SWMP) as of CY 2021

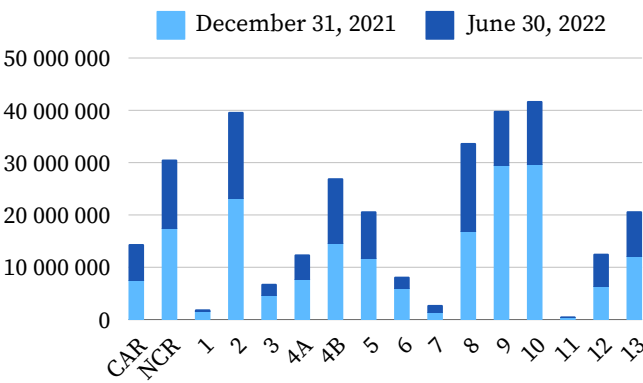


Figure 9: Balances of Financial Assistance to LGUs for the Establishment of MRFs (Php) as of December 31, 2021 and June 30, 2022

Region	Total Budget	SWM Budget
CAR	4,657,296	30,000
NCR	244,000,000	11,200,000
1	11,219,584	151,219
3	16,149,676	429,000
4A	80,424,188	1,607,000
5	28,900,000	260,000
9	19,300,000	205,000
11	44,666,081	1,240,000

Table 2. LGUs by Region budget for SWM - Commission On Audit (COA) - 2023

Table 2 summarizes the audited budget for SWMPs in 8 out of 18 regions, emphasizing the need for continued investments, enhanced integration, and community-wide engagement. The enforcement of SWMPs will be crucial to fully realize the benefits of the EPR framework in the Philippines.

Integrating the Informal Sector

The informal waste sector plays a critical role in the waste management ecosystem, yet its contributions often go unrecognized in formal EPR discussions. The evidence highlights the need to formalize these relationships to enhance overall supply chain efficiency. Initiatives by the DENR and the United Nations Development Program (UNDP) are underway to integrate the informal sector into formal waste management systems.

The informal sector's economic challenges, as revealed the initial findings of WWF, underscore the importance of creating clear pathways for operational improvements and integration into the formal system (WWF, 2024). Collaborative efforts between local governments and private sector actors demonstrate the potential for synergies that can strengthen waste recovery efforts (LGU interview, 2024).

Catalyzing Innovation and Collaboration

The EPR law has spurred significant advancements in recycling technologies and packaging design. Companies like Coca-Cola and Indorama Ventures are leading the charge with large-scale recycling plants, and new processes, such as radiation technology for plastic recycling, are emerging.

PROs have emerged as vital intermediaries, streamlining engagement processes and facilitating compliance with EPR standards (WWF Philippines, 2024). Over 45% of OEs have opted to authorize PROs to implement their EPR programs, highlighting their growing importance. The PBSP, in particular, has been instrumental in improving supplier engagement through workshops and consultations (PBSP, 2023).

Overall, the evidence paints a picture of a dynamic and evolving ecosystem where stakeholders from the private sector, public sector, and informal waste sector are collaborating to drive circularity in the Philippines.

Diversion Methods and Collection Mechanisms: Innovations and Market Realities

As the EPR Act reshapes the waste management landscape in the Philippines, a closer look at the diversion methods (Box 1) and collection mechanisms reveals a complex interplay of innovations, market dynamics, and challenges. Packaging material prices have risen sharply due to EPR fees covering transportation, auditing, and diversion, driven by high demand from OEs to meet target volumes, further highlighting the financial complexities of compliance (Figure 10).

Innovative approaches to waste management are emerging, with companies like Republic Cement leading the way. Their co-processing of plastic waste not only addresses the issue of waste but also contributes to energy generation (Ecoloop, 2022). The downstream implications of this diversion method preference is discussed further in this white paper.

At the grassroots level, community-driven initiatives are making significant strides. Projects like "Kuha sa Tingi" by WWF-Philippines and "Friends of HOPE - Aling Tindera Project" by Project HOPE are replacing single-use sachets with refillable options, significantly reducing plastic waste in pilot areas (Greenpeace Philippines, 2024). Localized facilities like Green Antz's eco-brick production successfully transforms waste into reusable materials, highlighting the potential of community-driven initiatives (Nassereddine & Thomas, 2024).

However, the informal waste sector, which plays a crucial role in collection efforts, faces significant challenges. The initial findings of WWF reveals that the depreciation of recyclables have discouraged their participation, as their incomes have declined since the implementation of the EPR Law (WWF, 2024). The dependence on informal networks for waste management also highlights barriers to improving supply chain efficiency, as informal waste collectors often lack formal integration into the supply chain (World Bank, 2022).

Market dynamics play a significant role in the availability of input materials. The buying price of recyclables directly impacts the consolidation of feedstock recyclables. Figure 10 illustrates the market pricing as of 2024, highlighting the substantial variation in prices based on different material types. Low prices can lead to a decline in collection, as there is insufficient monetary incentive for waste pickers and junk shops to gather plastics when prices are low (Discussion Guide for Recyclers, 2024).

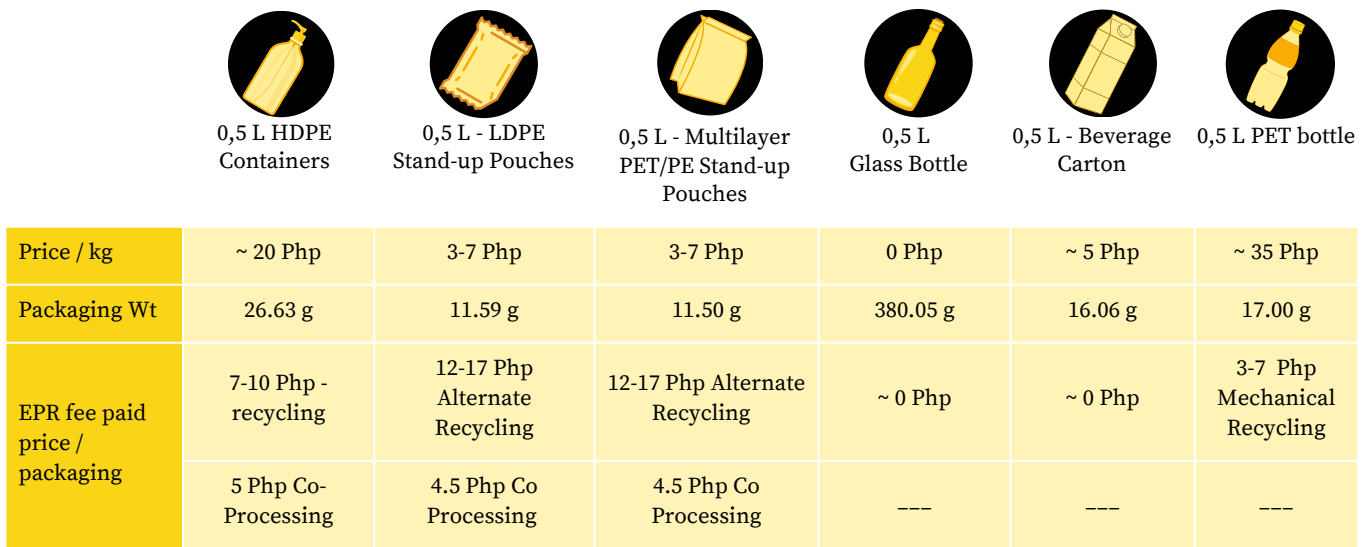


Figure 10. EPR fees for different packaging types (adapted from the WWF Philippines, 2020 and updated as of 2024)

The implementation of EPR has led to improved supply chain efficiency, fostering collaboration between producers, suppliers, and PROs. The oversight of PROs has shifted the EPR supply chain. While they enable streamlined operations in EPR compliance including standardized recycling processes, smaller suppliers face challenges due to limited resources and infrastructure, hindering their full participation in EPR (Box 2).

Data gathered shows 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 (Figures 11 and 12). **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.

As the Philippines continues to navigate the implementation of the EPR Act, addressing these challenges and leveraging the potential of innovative approaches such as digitization of data, selecting more sustainable diversion methods and optimization of last-mile infrastructure will be key to achieving a more sustainable and circular economy.

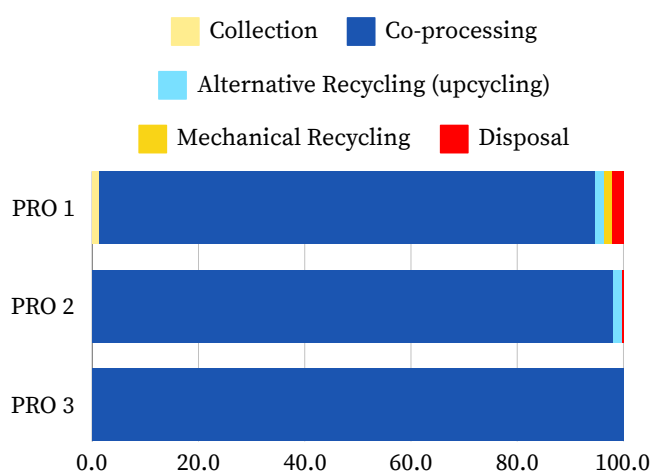


Figure 11. Flexible waste diversion (data from PROs - 2024)

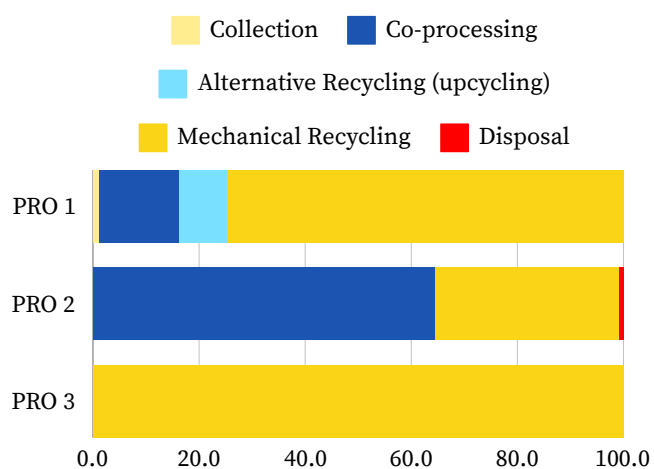


Figure 12. Rigid waste diversion (data from PROs - 2024)

BOX 1 UNDERSTANDING DIVERSION

Collection

The organized gathering and transport of waste from source to a processing or disposal facility.



Mechanical Recycling

The converting of plastic waste into new plastic products by cleaning, shredding, melting, and remolding without changing its basic chemical structure.



Alternative recycling (upcycling)

The creative process of transforming waste materials or unwanted products into new items of higher quality, value, or enviro.



Co-processing

The use of waste materials as raw material or as a source of energy in industrial processes, particularly in cement kilns.

Waste-to-Energy (WtE)

The process of generating energy in the form of electricity or heat from the primary treatment of waste.

Refuse-Derived Fuel (RDF)

A fuel produced by shredding and dehydrating combustible materials from municipal solid waste.

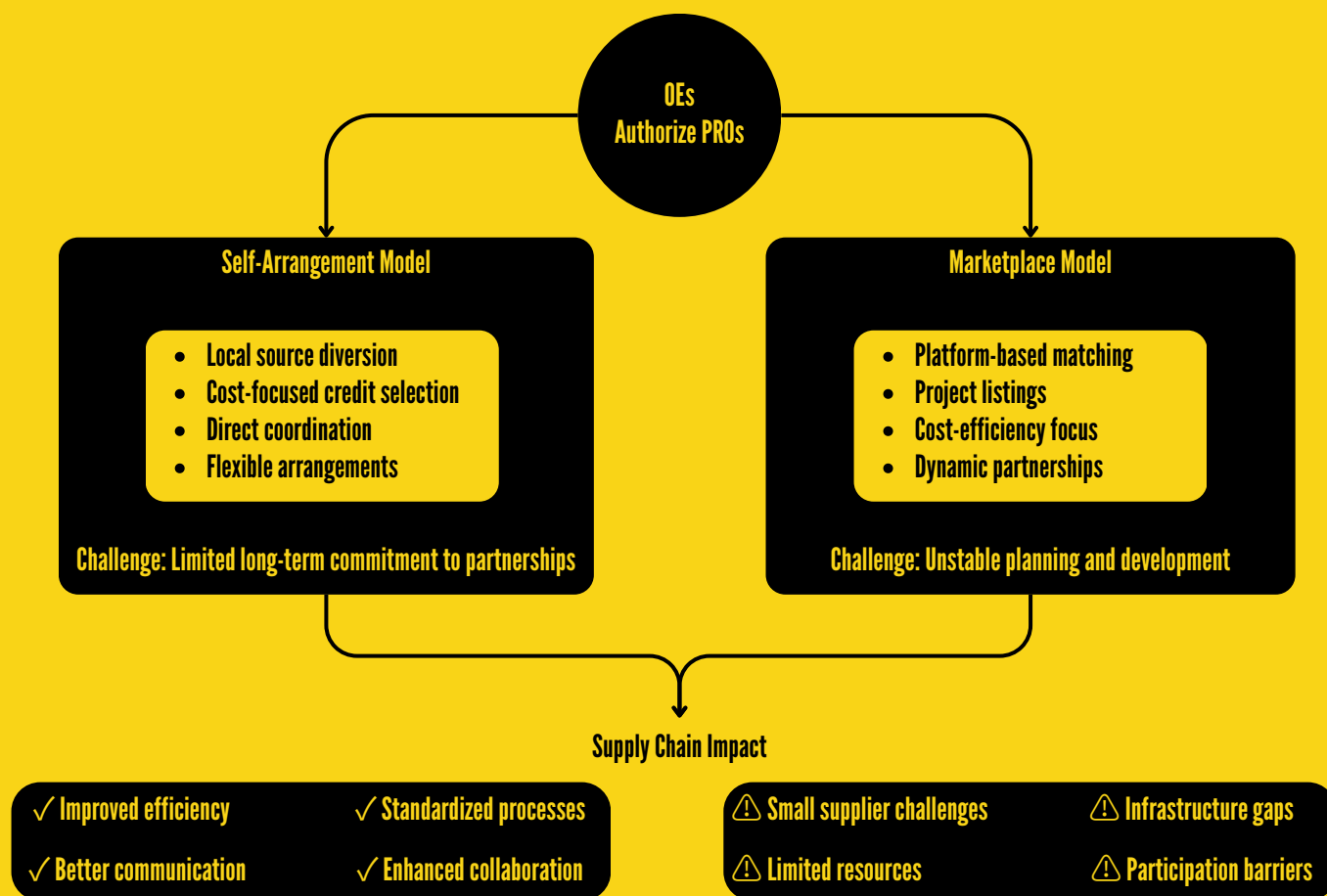


Disposal

The final stage of waste management where materials that cannot be recycled or recovered are permanently placed in designated facilities like landfills or incinerators.



SUPPLY CHAIN IMPLICATIONS OF PRO-AUTHORIZED EPR IMPLEMENTATION



Collection Rates and Percentages: Measurable Progress

As the EPR Act enters its second year of implementation, the collection rates and percentages provide a quantifiable measure of the progress made in waste management and recycling efforts in the Philippines.

Leading the charge are corporate giants like Colgate-Palmolive, who have successfully integrated advanced recycling solutions into their operations. Colgate-Palmolive Philippines has since shifted to the utilization of monolayer material making their packaging recycle-ready (Colgate-Palmolive, n.d.). This achievement not only demonstrates the feasibility of large-scale recycling efforts but also sets a benchmark for other companies to follow.

Holcim, a major player in the construction industry, has also made notable strides in waste diversion. In 2023, the company diverted a total of 220,000 MT of materials, which includes a mix of biomass, plastics, and industrial waste. Of this total, around 20,000 MT was municipal waste. With the implementation of EPR beginning in September 2022, the construction giant facilitated the diversion of 2,648.76 MT of materials. These figures highlight the significant impact that a single company can have in addressing the waste management challenges in the country.

On a broader scale, the first year of EPR implementation saw 20% of plastic waste diverted by brand owners (Figure 13, 14). This achievement is a testament to the collective efforts of the private sector in adhering to the law and adopting sustainable practices. It also underscores the potential for further progress as more businesses come on board and refine their waste management strategies.

As the EPR Act continues to shape the waste management landscape in the Philippines, these collection rates and percentages serve as a valuable benchmark for measuring progress and identifying areas for improvement. By building on the successes of corporate leaders and encouraging more businesses to adopt sustainable practices, the country can continue to make strides towards a cleaner, greener future.

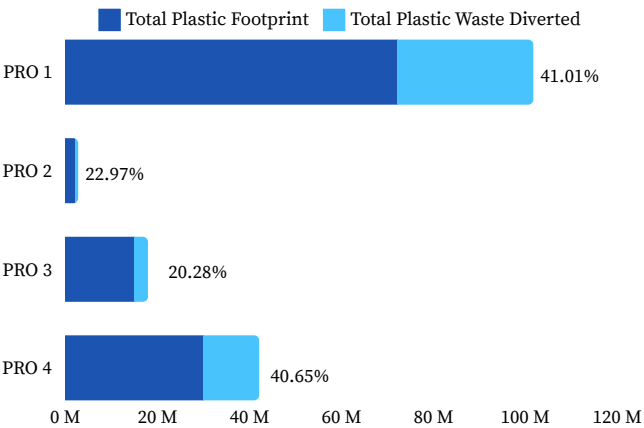


Figure 13. Diverted Flexibles on the Total Plastic Footprint (Million Kgs) - (ECAR Data 2023)

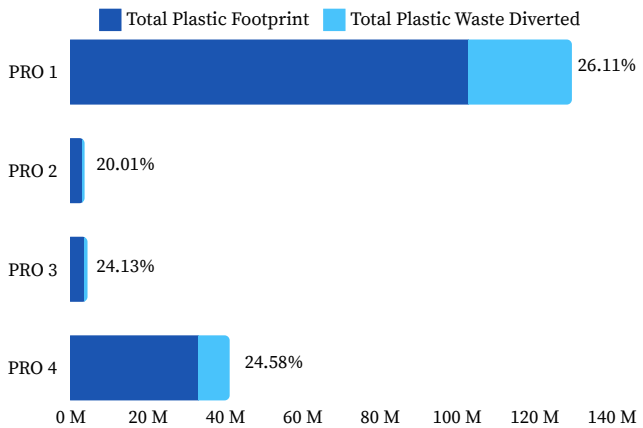


Figure 14. Diverted Rigid on the Total Plastic Footprint (Million Kgs) - (ECAR Data 2023)





CHAPTER 2

IMPLEMENTATION CHALLENGES AND ANALYSIS

The rollout of the EPR Act in the Philippines has unveiled a myriad of implementation challenges that warrant careful analysis. This section delves into the intricate web of obstacles faced by various stakeholders as they navigate the complexities of EPR compliance. From the nuanced difficulties in registration and compliance requirements to the overarching issues of transparency and auditing, we examine how these challenges intersect and compound one another. By scrutinizing the preferences in diversion methods and the dynamics of plastic credit pricing, we gain insight into the economic forces shaping EPR implementation.

This analysis not only highlights the immediate hurdles but also reveals deeper systemic issues that require attention. Through a comprehensive exploration of these challenges, we aim to provide a nuanced understanding of the current state of EPR implementation, identifying both the pain points and potential areas for improvement. This critical examination serves as a foundation for developing targeted strategies to enhance the effectiveness and equity of the EPR program, ultimately contributing to a more sustainable waste management ecosystem in the Philippines.

Corporate Participation: A Tale of Two Realities

As the EPR Act reshapes the corporate landscape in the Philippines, a stark contrast emerges between the experiences of large corporations and MSMEs.

The Struggle of MSMEs: Navigating the Costs of Compliance and Limited Resources

MSMEs face significant challenges in complying with the EPR Act and adopting sustainable practices, often viewing regulations as burdensome due to high compliance costs (Nestlé Philippines, 2023). Unlike large corporations with established recycling systems, MSMEs struggle with limited infrastructure and supplier networks, which hampers their ability to adapt to new requirements (World Bank Group, 2021).

A major barrier for MSMEs is the lack of resources and support; many lack the tracking systems necessary for detailed reporting, resulting in visibility gaps in the supply chain (Globe Telecom, Inc., 2023). This makes it difficult for them to comply with the EPR Act and contribute to sustainability efforts.

Furthermore, while larger firms benefit from advanced recycling technologies, MSMEs, particularly in rural areas, experience dissatisfaction due to limited access to these innovations (COA - Republic of the Philippines, 2023).

The reliance on traditional multi-layered plastic packaging also persists, as MSMEs cite costs and a lack of viable alternatives as obstacles to adopting more sustainable options (World Bank, 2022).

The Steep EPR Act Compliance Fines Burdening Brand Owners

Moreover, non-compliance can lead to monetary fines which can significantly impact MSMEs. The monetary fines for violations related to failing to register under Section 44-E of the Act or failing to comply with Section 44-F, as amended by the EPR Law, are as follows:

- First Offense: Not less than Five million pesos (₱5,000,000.00) but not exceeding Ten million pesos (₱10,000,000.00)
- Second Offense: Not less than Ten million pesos (₱10,000,000.00) but not exceeding Fifteen million pesos (₱15,000,000.00)
- Third Offense: Not less than Fifteen million pesos (₱15,000,000.00) but not exceeding Twenty million pesos (₱20,000,000.00), along with automatic suspension of the business permit until the EPR Law requirements are complied with.

Bridging the Gap: The Need for Inclusive Sustainability Efforts

While significant commitments have been secured from major corporations, more work is needed to involve local governments and smaller companies in these sustainability efforts (Power Philippines News, 2024). Smaller businesses often lack the resources to fully adopt standardized practices, resulting in varying levels of process efficiency across sectors (WJG, 2024).

There is a notable disparity in the implementation of sustainable practices across industries. Larger corporations may have made strides in adopting sustainable materials, but smaller businesses often lack the necessary resources and support to do the same (World Bank, 2022).



To address the challenges faced by MSMEs and bridge the gap between large corporations and smaller enterprises, collaboration and support are essential. Large corporations can play a crucial role in this process by sharing their knowledge, resources, and best practices with MSMEs. By providing guidance and assistance in navigating the complexities of EPR requirements, large corporations can help level the playing field and ensure that all businesses, regardless of size, can contribute to the sustainability efforts.

Additionally, the government and other stakeholders must provide targeted support and resources to MSMEs to help them overcome the barriers they face. This support can come in the form of financial incentives, technical assistance, and infrastructure development. By investing in the capacity building of MSMEs, the Philippines can foster a more inclusive and sustainable business ecosystem that benefits all stakeholders.

The impact on waste reduction and management behaviors at the community level has been limited, particularly in rural areas. Smaller local governments struggle to adopt EPR-driven practices, highlighting the need for greater public-private partnerships (PPP) for infrastructure support and educational outreach.

The PPP model enhances sustainability in MSW management, encouraging collaboration between the government and private sectors to combine resources, expertise, and technology. These partnerships can lead to the establishment of essential infrastructure, such as recycling facilities and collection systems, addressing the gaps faced by MSMEs. By leveraging private sector innovations, technologies, processes, and education are made more accessible to smaller enterprises and local communities. Overall, the PPP model for EPR can significantly advance sustainability efforts in the Philippines, fostering a circular economy and addressing the unique challenges faced by MSMEs.

As the Philippines continues to navigate the implementation of the EPR Act, it is crucial to address the disparities between large corporations and MSMEs, fostering a more inclusive and equitable approach to sustainability. By providing targeted support and resources to smaller businesses and local governments, the country can work towards a future where all stakeholders, regardless of size, can actively participate in building a more sustainable and circular economy. This approach will not only benefit businesses but also contribute to more effective waste management practices at the community level, ultimately leading to a cleaner and more sustainable environment for all.

Recycling Infrastructure and Adoption Barriers: Bridging the Urban-Rural Divide

As the Philippines continues to implement the EPR Act, the disparity in recycling infrastructure and adoption between urban and rural areas becomes increasingly apparent.

Urban Recycling Success: Corporate Initiatives Drive Change

In urban centers, corporate-led initiatives have been the driving force behind increasing recycling rates. Higher public awareness and engagement in these areas have contributed to the success of programs as these initiatives demonstrate the potential for collaborative efforts by public-private partnerships to drive positive change in waste management practices.

However, even in urban settings, there is a critical need for improvements in recycling facilities, particularly in washing and processing technologies. Inconsistent collection schedules and inadequate infrastructure exacerbate these challenges, negatively impacting overall satisfaction with recycling programs (Inquirer Business, 2020).

ReForm Plastic by Evergreen Labs is addressing the critical gaps in the Philippines' recycling infrastructure by offering an effective solutions for low-value plastics. As of 2024, ReForm Plastic has established operational hubs in three strategic locations—Bulacan, Valenzuela, and Cebu—implementing a pioneering model that enables scalable and locally-focused waste management solutions. This approach helps overcome common barriers in the sustainability industry, such as high capital investment requirements and the challenges of establishing effective last-mile infrastructure for waste collection and processing.

The decentralized approach minimizes the need for large facilities and instead relies on smaller, more agile processing units strategically placed near sources of waste generation. This not only reduces transportation costs but also makes recycling more accessible to communities in both urban and rural areas. Each of ReForm Plastic's facilities is capable of processing up to 1,000 MT of plastic waste annually, collectively diverting thousands of tons of plastic from landfills and the natural environment yearly.



Rural Communities Left Behind: The Infrastructure and Engagement Gap

In stark contrast to the progress made in urban areas, community-level adoption of recycling practices is lagging in rural areas, where barriers like inadequate infrastructure and limited public awareness persist (COA - Republic of the Philippines, 2023). Rural communities lack the necessary infrastructure and public engagement to implement recycling programs effectively. However there are many grassroots programs are being established to support rural LGUs in collaboration with development organizations and other community-based groups, such as on Guimeras Island (Box 3). In contrast, the National Capital Region stands out as one of the three regions that allocates capital resources specifically for solid waste management (Figure 15).

Smaller enterprises in these areas face significant challenges in meeting EPR demands, as they often lack the resources to invest in new recycling technologies and infrastructure (Globe Telecom, Inc., 2023).

The high costs associated with innovation and the limited accessibility of advanced technologies in rural areas hinder the broader implementation of sustainable waste management practices (COA - Republic of the Philippines, 2023).

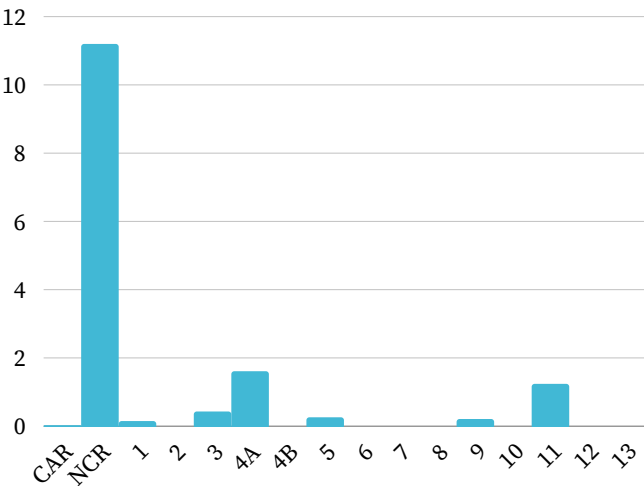


Figure 15. LGUs by Region budget for SWM (Million) - Commission On Audit (COA) - 2023



Overcoming Barriers: The Need for Fiscal Incentives and Coordinated Efforts

To bridge the gap between urban and rural areas, there is a pressing need for more coordinated efforts to scale recycling nationwide and ensure the accessibility of recycling programs across all regions. Fiscal incentives could play a crucial role in encouraging smaller entities to invest in technological upgrades and infrastructure improvements. While large stakeholders like Holcim have demonstrated a willingness to invest in co-processing technologies without direct fiscal incentives, driven by corporate responsibility or regulatory requirements, smaller entities may require fiscal support to make similar investments.

Additionally, addressing consumer resistance to shifting established packaging norms and the high costs of innovation remains a significant challenge. Despite advancements in innovative packaging designs, such as lightweight and mono-material options, stakeholders note that these barriers hinder broader implementation (Nestlé Philippines, 2023).

As the Philippines moves forward with the implementation of the EPR Act, it is crucial to acknowledge and address the disparities between urban and rural areas in terms of recycling infrastructure and adoption. By providing targeted support, fiscal incentives, and coordinated efforts to scale recycling nationwide, the country can work towards a more inclusive and sustainable waste management system that benefits all communities, regardless of their location or size.



GUIMARAS PLASTIC UPCYCLING INITIATIVE

Guimaras Island, located off the coast of Iloilo, has taken a leading role in plastic waste management within the Philippines, aligning its initiatives with the EPR framework and contributing to the national goal of a circular economy. With support from the 3RproMar project by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), Guimaras is optimizing its collection, recover, plastic recycling and upcycling efforts, focusing on enhancing the sustainability of its Plastic Upcycling Initiative. This project seeks to strengthen the island's capacity to recycle plastics and encourage environmentally friendly practices that minimize waste leakage and pollution.

The Guimaras Plastic Upcycling Initiative involves comprehensive, island-wide plastic collection across barangays, with systematic efforts to sort, process, and repurpose plastics. Recyclable plastics such as PET are traded directly to a regional aggregator, ensuring they re-enter the supply chain and contribute to a closed-loop system. This partnership reinforces the circularity of the project by diverting plastics from waste streams and re-integrating them into local, productive use.

At the Sapal processing facility, plastic waste is meticulously sorted by type and quality before being upcycled into high-value eco-products, including eco-boards and lumber. These eco-friendly materials are produced under stringent quality controls to ensure durability and sustainability. The facility is a hub of local economic activity, creating jobs in waste collection, sorting, and upcycling, while also reducing landfill reliance.



Photo Caption: Optimized extruder from plastic recycling line

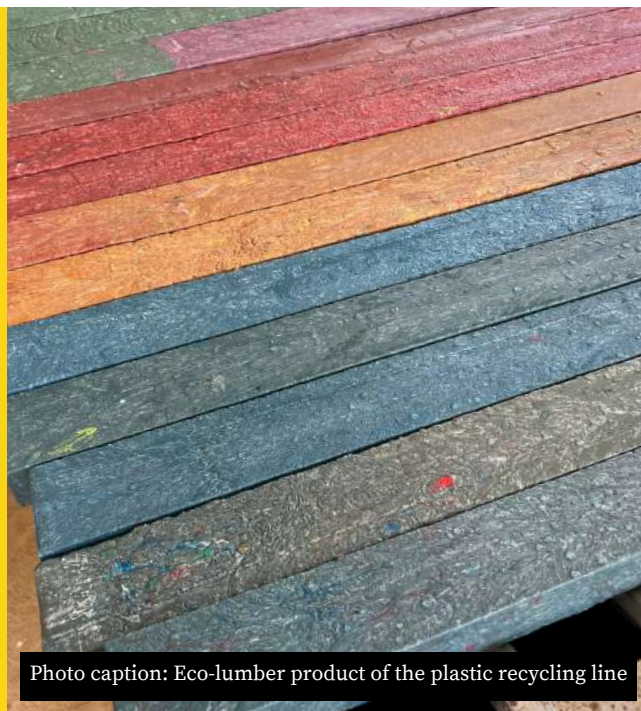


Photo caption: Eco-lumber product of the plastic recycling line

Through the 3RproMar project, Guimaras has expanded its operational scope and technical capacity, optimizing the transformation of plastics into sustainable products. This community-driven approach exemplifies the effectiveness of EPR frameworks in reducing environmental pollution and fostering long-term stewardship.

Guimaras Island's comprehensive upcycling strategy serves as a model for other Philippine communities, demonstrating the power of partnerships, policy alignment, and local engagement in creating scalable solutions to the plastic waste crisis. By repurposing discarded plastics, the initiative not only conserves resources but also empowers the local economy, making a meaningful impact in sustainable waste management.



Photo caption: Aggregated transport of PET plastic waste

Costs and Benefits for Businesses: Balancing Sustainability & Profitability

The implementation of the EPR Act in the Philippines has brought to light the complex interplay between the costs and benefits of compliance for businesses, particularly in terms of sustainability and profitability.

Absence of Incentives: A Barrier to Engagement and Participation

One of the most significant challenges faced by businesses is the lack of fiscal incentives under the EPR law. This absence of financial support has negatively impacted engagement and participation among OEs and PROs. Stakeholders express concerns that financial incentives designed to support waste management do not effectively reach grassroots-level initiatives (Diverters Interview, 2024), further compounding the issue. However, data of the value lost by type of plastic waste suggests that recyclers have an opportunity to increase profits by improving the collection and recycling of this lost-value plastic waste (Figure 16) despite the absence of fiscal incentives. This suggests that other factors, such as social pressure, regulatory influence, or corporate responsibility, may be driving some engagement. These non-fiscal motivators highlight that while fiscal incentives are important, they are not the sole determinant of participation levels.

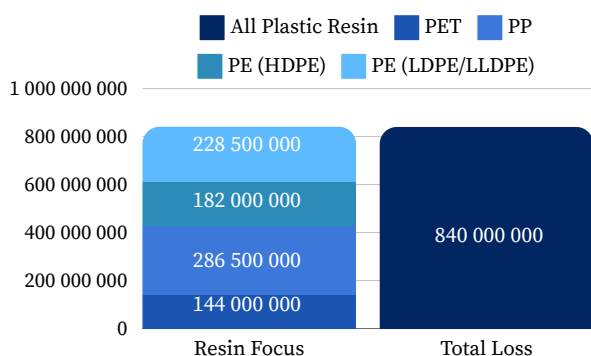


Figure 16. Material value loss by Resin Focus (World Bank Group 2021, USD).

While businesses face significant challenges due to the lack of fiscal incentives under the EPR law, there are structured pathways to apply for incentives, as outlined in (Box 4). This guidance offers a step-by-step process for engaging with investment promotion agencies and utilizing the Fiscal Incentives Registration and Monitoring System (FIRMS) for eligible projects, which may help support recycling and waste management efforts even in the absence of direct fiscal support from the EPR law.

Compliance as a Financial Burden: The Divide Between OEs and MSMEs

For many businesses, particularly smaller stakeholders, compliance with EPR regulations is viewed as a financial burden. While many industry players, especially those in larger corporations, view the regulations positively and leverage them as opportunities to enhance sustainability and improve brand reputation, MSMEs often perceive these regulations as burdensome, with the costs associated with compliance outweighing any potential benefits (Nestlé Philippines, 2023).

This divide between large corporations and MSMEs highlights the need for targeted support and incentives to ensure that all businesses, regardless of size, can effectively participate in the EPR program without compromising their financial stability.

Impact on Sustainability: Balancing Waste Management and Environmental Innovation

The lack of fiscal incentives and the perceived financial burden of compliance have limited broader engagement in recycling technologies and environmental innovations. These challenges are compounded by the lack of government support in the form of subsidies or technical assistance, reducing incentives for stakeholders to invest in innovative solutions (World Bank Group, 2021).

As a result, the overall sustainability impact of the EPR program is reduced, despite some positive waste management changes. This underscores the importance of aligning the EPR program with national environmental goals and providing the necessary support to encourage businesses to adopt sustainable practices.

BOX 4

HOW TO APPLY FOR INCENTIVIES FROM FIRB

- 1 Check if your proposed project or activity is included in the Philippines' Strategic Investment Priority Plan (SIPP).
- 2 Get in touch with one of our investment promotion agencies (IPAs) for assistance. The IPAs can facilitate and expedite the setting up and operation of investment projects, assist in the registration process, and provide information and advice on the incentive package applicable.
- 3 Create an account under the Fiscal Incentives Registration and Monitoring System (FIRMS) to proceed with filing of your application. The IPAs will review your applications through FIRMS. See documentary requirements for the application for registration and tax incentives.
- 4 Wait for the IPA's response to your application via the official email address you used to create your FIRMS account.

Drivers for Engagement: Regulatory Pressure, Social Motivators, and Corporate Responsibility

Despite the challenges, some businesses have reported improvements in efficiency as they comply with EPR regulations. Sustainable materials and standardized processes have been shown to reduce bottlenecks in supply chains (URC, 2021). However, current engagement is largely driven by regulatory pressure, social motivators, and corporate responsibility, rather than financial incentives.

To maximize participation and support broader stakeholder involvement, the introduction of fiscal incentives could be a potential solution. By providing financial support and incentives, the EPR program can encourage businesses of all sizes to invest in sustainable practices, recycling technologies, and environmental innovations (Box 5).

Furthermore, targeted initiatives such as the Kuha sa Tingi and Aling Tindera projects have demonstrated the potential for positive financial outcomes, with micro-entrepreneurs and micro-businesses experiencing income and profit increases of 35% and 15%, respectively (Table 4). These successes highlight the importance of supporting grassroots-level initiatives and ensuring that the benefits of

Project	Stakeholder	Income/ Profit Increase	Year
	women micro-entrepreneurs	35%	2023
	micro-businesses and local stores	15%	2024

Table 4. Income increase of the other stakeholders under the EPR implementation

the EPR program are felt across all levels of the business ecosystem.

As the Philippines continues to navigate the implementation of the EPR Act, it is crucial to address the costs and benefits for businesses in a balanced manner. By providing financial incentives, targeted support, and aligning the program with national environmental goals, the country can foster a more inclusive and sustainable business ecosystem that encourages participation from all stakeholders, regardless of their size or financial capacity.

BOX 5

CASE STUDY: BIÑAN CITY’S DIVERSION EFFORTS AND ECO-BRICK INITIATIVES

Biñan City, with a population of over 419,000, is actively addressing waste management challenges through their ongoing ecobricks and eco-hollow block production.

The initiative focuses on transforming non-recyclable plastic waste into eco-bricks and eco-hollow blocks, produced at the Biñan Eco Park’s Material Recovery Facility. These eco-bricks are made by tightly packing shredded plastics into bottles, while eco-hollow blocks use shredded plastic mixed with ash collected during the 2020 Taal Volcano eruption. The ash-derived “Taal Brick” concept was conceived by Mayor Walfredo Dimaguila Jr., with the goal of providing affordable building materials and aiding affected municipalities.

The eco-hollow blocks, used in building the city’s new Command, Control, and Communication Center, offer a sustainable alternative to traditional materials, reducing costs and contributing to low-carbon urban development. The facility also fosters community participation through educational programs, especially in public schools, where students engage in eco-brick production as part of environmental activities.

The city’s eco-brick fabrication has inspired a strong community commitment to sustainable waste practices. Local residents have started participating in the production line, emphasizing the empowerment and environmental consciousness fostered by these initiatives.

By involving the community, Biñan not only reduces plastic waste but also promotes awareness and responsibility, turning waste into a resource while providing social benefits.

Through eco-bricks and eco-hollow blocks, Biñan diverts significant volumes of plastic waste from landfills, curtails environmental pollution, and creates accessible, affordable building materials. This approach serves as a replicable model for other urban centers, proving that community-driven initiatives can effectively address complex waste management challenges and promote a circular economy in the Philippines.



Registration & Compliance Requirements: Navigating the Complexities of EPR Reporting

The EPR Act in the Philippines has introduced a set of registration and compliance requirements that businesses must navigate to ensure they are meeting their obligations and contributing to the country's sustainable waste management goals.

Reporting Challenges: Clarity, Consistency, and Transparency

One of the primary challenges faced by businesses in complying with the EPR Act is the lack of clarity surrounding the criteria for OEs. This ambiguity has led to confusion and inconsistencies in determining which businesses are subject to the Act's requirements.

Furthermore, issues with the registration platform have affected data input and overall compliance ease. These technical difficulties have hindered businesses' ability to accurately report their waste management activities and have contributed to the overall complexity of the registration process (Figure 17). Cumulatively, these complications negatively affect submission rate, with more than 50% of OEs yet to submit their EPR programs for 2023 [deadline was July 1, 2024] (Figure 18).

Transparency in reporting has also emerged as a significant concern. Incomplete stock-keeping unit (SKU) listings, improper plastic classification, and missing documents have reduced the reliability of the data submitted by businesses. This lack of transparency not only undermines the effectiveness of the EPR program but also makes it difficult for stakeholders to accurately assess the progress being made towards sustainable waste management goals.

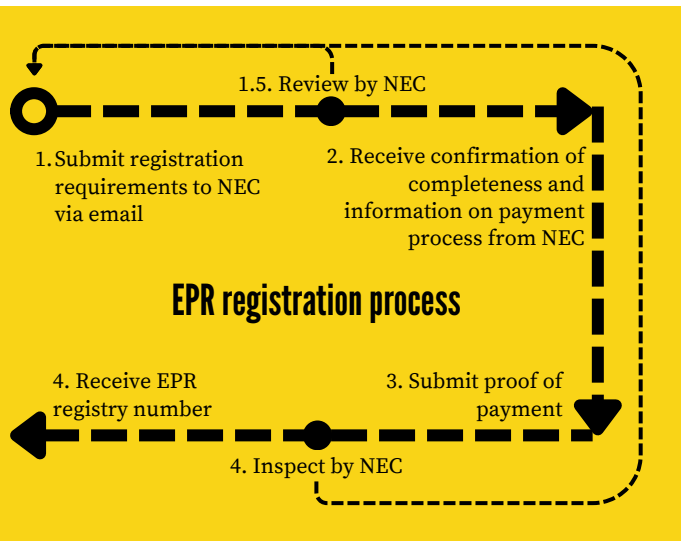


Figure 17. EPR registration workflow in the Philippines

Auditing and Traceability Challenges: Ensuring Accuracy and Preventing Double Counting

The EPR Act requires OEs to engage independent auditors to certify the accuracy of their EPR compliance reports (Auditor Interview, 2024). However, the lack of clearly defined auditing standards has created additional challenges for businesses.

Recently, the auditing standards have been clarified as Agreed-Upon Procedures (AUP), Limited Assurance, and Reasonable Assurance. While this clarification is a step in the right direction, businesses must still navigate the complexities of these standards and ensure that their reporting practices align with the requirements.

Another significant challenge in the auditing process is the risk of double counting. Misclassification and improper SKU consolidation can lead to tracking inconsistencies, making it difficult to accurately assess the amount of waste being managed and recycled.

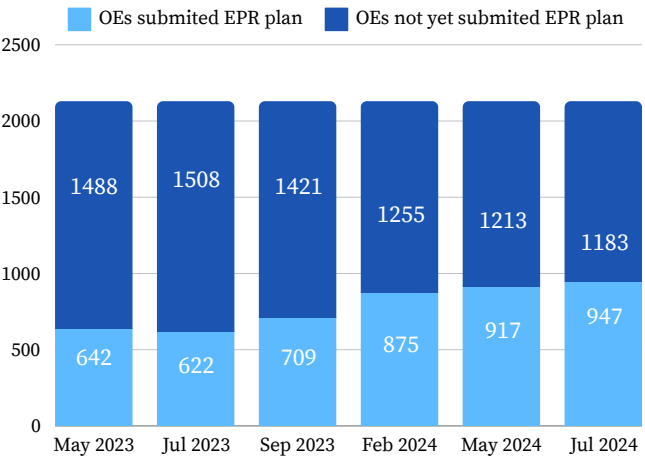


Figure 18. OEs - Submission of EPR Programs (thought time)

Key Insights: The Importance of Independent Audits

Despite the challenges, independent audits play a crucial role in enhancing the credibility, transparency, and stakeholder confidence in the EPR program. These audits help identify gaps and weaknesses in the reporting process, providing businesses with actionable insights for improvement.

By engaging in independent audits, businesses can demonstrate their commitment to sustainable waste management and contribute to the overall effectiveness of the EPR program.

As businesses in the Philippines continue to navigate the registration and compliance requirements of the EPR Act, it is crucial to address the challenges associated with reporting, auditing, and traceability. By implementing the recommended improvements and engaging in independent audits, businesses can not only meet their obligations but also contribute to a more sustainable and effective waste management system in the country.

To address the challenges related to registration and compliance requirements within EPR frameworks, (**Box 6**) presents a set of structured recommendations aimed at enhancing standardization, guidelines, and alignment. These recommendations cover essential practices such as establishing clear written guidelines, standardizing data calculations, implementing periodic internal reviews, aligning audit processes, and ensuring accurate classification and verification of plastic packaging. By adopting these best practices, businesses can improve data accuracy, reduce compliance risks, and support a more transparent and efficient EPR program.

BOX 6

RECOMMENDATIONS FOR IMPROVEMENT: STANDARDIZATION, GUIDELINES, AND ALIGNMENT

To address the challenges with registration and compliance requirements, several recommendations have been proposed:



Establish Written Guidelines

Establish comprehensive written policies which clearly define roles, procedures, and classification rules to ensure consistency and clarity in the reporting process.

1. **Scope and responsibilities** - define the roles and scope within the organization for EPR compliance reporting
2. **Data procedures** - develop clear procedures for data collection, recording, and monitoring
3. **Documentation** - determine the format, structure, and frequency of the documentation and ensure that it is approved by the appropriate authority.
4. **Internal review process** - set up an internal review process to ensure accuracy of the reports and compliance with regulations



Standardized Calculations

Adopt consistent formulas and verify data rigorously to reduce inconsistencies and improve the accuracy of reported information. Maintain an accurate calculation of the footprint summary by implementing a uniform procedure for computation.

1. **Verify** the precise weight and quantity of the SKUs.
2. **Create** a formula that is compatible with your dataset and the industry where you operate.
3. **Convert** the collected data into a report.



Periodic Internal Reviews

Designate responsible personnel for ongoing data accuracy checks to identify and address issues in a timely manner. In ensuring the accuracy of the reports and adherence to regulations, assign responsible persons for the recording, monitoring, approval, and review of the documents relevant to EPR compliance reporting. Establish a frequent internal review process to ensure reliability and quality and ensure the documentation of the periodic reviews conducted.



Align Audit Processes

Synchronize audit requirements with internal procedures to ensure seamless data flow and reduce the burden on businesses by:

1. Preparing the detailed Schedule of Accountable Plastic Footprint Summary reflected in the ECR including the SKU, quantity, and verifiable weight of the plastic packaging (sales and returns)
2. Aligning the necessary data and documents (including live sales data extraction) for the verification process.



Plastic packaging classification and weight verification

Classify and verify plastic packaging by ensuring that the classification of the plastic packaging component is accurate and aligned with existing rules and regulations. Maintain coordination with the supplier of the plastic packaging regarding the verifiable weight of the plastic component. Recommended weighing scale is analytical balance.



Follow industry best practices

Collaborate and learn from those who have accomplished their own programs.

By implementing these recommendations, businesses can streamline their registration and compliance processes, reduce the risk of errors and inconsistencies, and contribute to a more effective and transparent EPR program.



CHAPTER 3

SYSTEMIC DISPARITIES AND CHALLENGES

The implementation of the EPR Act in the Philippines has brought to light a complex web of systemic disparities and challenges that permeate the entire waste management ecosystem. As we delve into this section, we aim to examine the broader landscape of EPR implementation, moving beyond individual stakeholder experiences to understand the interconnected nature of the challenges faced. This holistic view reveals how geographical, economic, and infrastructural disparities create a ripple effect throughout the system, impacting urban and rural areas differently, influencing the accessibility of recycling programs, and shaping the economic and social outcomes for communities across the country. By synthesizing these various elements, we can better appreciate the systemic nature of the challenges faced in implementing EPR, from the urban-rural divide to the intricate interplay between corporate actions, government policies, and community responses. This comprehensive analysis will provide insights into the root causes of persistent issues and highlight potential leverage points for creating a more equitable, efficient, and sustainable waste management system in the Philippines.

Diversion Methods & Plastic Credit Pricing: Balancing Costs and Sustainability

As the EPR Act takes hold, the preferences for diversion methods and the pricing of plastic credits have emerged as critical factors in shaping the waste management landscape. The interplay between cost-effectiveness and sustainability has created a complex dynamic that has significant implications for the success of the EPR program.

BOX 7 PRO VS NGO STATUS

The ongoing debate on whether PROs should be allowed to function as NGOs centers around the legal frameworks that govern their registration and operation. In the Philippines, organizations can legally be structured to function both as business entities and as NGOs if they meet specific certification requirements. A crucial aspect of this dual functionality is PCNC (Philippine Council for NGO Certification) accreditation, which enables PROs to issue donation certificates while benefiting from the tax incentives typically afforded to NGOs. This accreditation requires that the organization is also recognized by the Securities and Exchange Commission (SEC), ensuring that it fulfills both non-profit standards and the regulatory obligations of an NGO.

The main challenge lies in balancing the social mission of NGOs with the commercial objectives often

PROs and the Allocation of Funds: A Cause for Concern

PROs play a crucial role in the implementation of the EPR Act, serving as intermediaries between OEs and waste management initiatives. However, concerns have been raised regarding the allocation of funds by PROs and their legal status overall (Box 7). There is a perception that PROs retain a significant portion of the funds intended for waste management, often failing to invest in impactful recycling projects (Diverter Interview, 2024). This lack of transparency and apparent misallocation of resources have undermined the effectiveness of the EPR program and have led to a growing mistrust among stakeholders.

Diversion Method Preferences: The Pursuit of Cost-Effectiveness

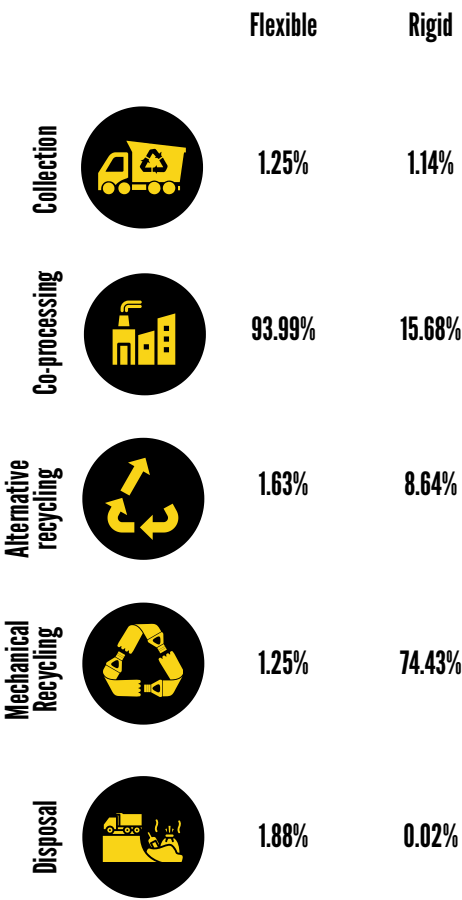


Figure 19. Flexible and Rigid waste were diverted by type of diversion (%) (data from PROs - 2024)

associated with PROs. NGOs are traditionally granted tax benefits to support their social and environmental initiatives, whereas business ventures focus on profitability. Allowing PROs to operate under the same tax-exempt framework as NGOs can lead to concerns about anti-competitive practices if they engage in significant revenue-generating activities. This has led to calls for transparent regulations that differentiate incentives and outline clear conditions for NGO accreditation. Clearer guidelines are essential to prevent conflicts of interest and ensure a fair environment for both NGOs and PROs, fostering collaboration without compromising the integrity of non-profit incentives.

The preferences for diversion methods have been heavily influenced by the pursuit of cost-effectiveness. PROs and OEs alike have demonstrated a clear preference for low-cost diversion methods, such as co-processing (Flexible plastic - 93.99%; Rigid plastic - 15.68%) or landfilling (Figure 19). These methods have become the norm, as they offer the lowest-cost solutions for meeting the EPR requirements.

However, this focus on affordability has come at the expense of more sustainable and environmentally friendly diversion methods. Recycling and upcycling efforts, particularly for flexible plastics (1.25%), have been largely overlooked due to the higher costs associated with these processes. **Stakeholders have shown an unwillingness to pay more for these sustainable options, as the current pricing norms have created an expectation for low-cost solutions.**

Conflicts Between High-Visibility Diversion Methods and Environmental Goals

The preference for high-visibility diversion methods, such as co-processing in cement kilns or the use of plastic waste as an alternative fuel, has created conflicts with the broader environmental goals of the EPR program. While these methods may appear to be effective solutions for managing plastic waste, they often fail to address the root causes of the problem and may even contribute to other environmental issues, such as air pollution (Box 8).

Moreover, the focus on these high-visibility methods has diverted attention and resources away from more sustainable and environmentally friendly options, such as recycling and upcycling. This has created a situation where the EPR program may be meeting its targets on paper but failing to achieve its ultimate goal of reducing plastic waste and promoting a circular economy.

BOX 8

PROS AND CONS OF CO-PROCESSING IN WASTE MANAGEMENT

While co-processing is an acceptable diversion method under RA 11898, it comes bearing disadvantages:



Environmental Impact

Co-processing often involves the use of waste materials as fuel or raw materials in industrial processes. If not managed properly, this can lead to emissions of harmful pollutants, contributing to air and water pollution.



Health Risks

Co-processing waste can release toxic substances during processing, posing health risks to workers and nearby communities. This can lead to long-term health issues and environmental degradation.



Market Limitations

The market for co-processed materials may be limited. If the quality of the final product is not consistent or meets required standards, it can hinder market acceptance.

Resource Inefficiency



Using waste materials may not always be the most efficient option. Some waste can contain harmful substances that need to be treated or removed, leading to increased processing costs and resource consumption.

Public Perception



There can be public resistance to co-processing facilities, especially if they are perceived as environmentally harmful. This can impact community relations and lead to opposition.

Co-processing can offer waste reduction benefits, but careful management and consideration of these challenges are essential to ensure that it is a viable and sustainable practice. Some benefits of co-processing include:

Accessibility



Co-processing helps divert waste from landfills, reducing overall waste volume (Ecoloop, 2022).

Cost Savings



Utilizing waste as a resource can lower raw material and energy costs for industries (Hilda Austria, 2024).

Reduced Emissions



Properly managed co-processing can lower greenhouse gas emissions compared to traditional disposal methods (Davison, 2024).

Influence of Larger Corporations on Plastic Credit Pricing

Larger corporations have a significant influence on the pricing of plastic credits, as they are often the primary buyers in the market. These corporations, with their substantial purchasing power, have the ability to drive down the price of plastic credits. **This makes it challenging for more sustainable diversion methods to compete, and it also affects the lowest players in the waste flow.**

The focus on cost-effectiveness by these larger corporations has created a market dynamic where the price of plastic credits is primarily determined by the cheapest available options (Flexible plastic - Co-processing: 93.99%, Figure 19). **This has led to a situation where PROs and other stakeholders are incentivized to prioritize low-cost diversion methods, even if they are less sustainable or environmentally friendly.**

Plastic Credit Pricing: The Need for a Long-Term Perspective

The pricing of plastic credits has also been a subject of concern (Table 5). PROs have demonstrated a lack of long-term commitment, as they prioritize flexibility to consistently select the most cost-effective options. **This short-term focus has led to a market dynamic where the price of plastic credits is driven down, making it challenging for more sustainable diversion methods to compete.**

The lack of a long-term perspective has significant implications for the sustainability of the EPR program. **By prioritizing short-term cost savings over long-term environmental benefits, PROs risk undermining the very purpose of the EPR Act. Without a stable and fair pricing system for plastic credits, the incentives for investing in sustainable diversion methods are diminished, leading to a perpetuation of unsustainable practices.**

Pricing table (Php/KG)	Flexible Plastic	Rigid Plastic
Recycling	8 - 25	5 - 25
Coprocessing	3 - 7	5 - 8
Landfill	1 - 3	1 - 3

Table 5. 2024 Plastic Credit pricing table (Php/KG)

Balancing Cost-Effectiveness and Sustainability: A Call for Action

To address these challenges and ensure the success of the EPR program, it is crucial to strike a balance between cost-effectiveness and sustainability. This requires a concerted effort from all stakeholders, including PROs, OEs, and the government.

PROs must be held accountable for the allocation of funds and must be required to invest in impactful collection and recycling projects. Transparency and oversight are essential to ensure that the funds intended for waste management are used effectively and efficiently. **Additionally, PROs must be encouraged to adopt a long-term perspective and to prioritize sustainable diversion methods, even if they come at a higher cost.**

OEs, on the other hand, must be willing to pay a fair price for plastic credits that reflects the true cost of sustainable waste management. By recognizing the value of sustainable diversion methods and investing in these practices, OEs can contribute to the long-term success of the EPR program and the overall health of the environment.

Finally, the government must play a critical role in creating an enabling environment for sustainable waste management. This includes **establishing clear guidelines and standards for diversion methods and enforcing regulations to ensure compliance.** Additionally, **providing incentives for sustainable practices** such as utilization of upstream measures also contributes to the transition towards a more sustainable and circular economy (Box 9).

As the Philippines continues to navigate the implementation of the EPR Act, it is crucial to address the challenges associated with diversion method preferences and plastic credit pricing. By striking a balance between cost-effectiveness and sustainability, fostering a long-term perspective among all stakeholders, and addressing the conflicts between high-visibility diversion methods and environmental goals, the country can work towards a more sustainable and equitable waste management system that benefits both the environment and the economy.



STRENGTHENING UPSTREAM MEASURES IN THE PHILIPPINES' EPR LAW: A CALL FOR CLARITY & INCENTIVES

The Philippines has taken an admirable step forward in environmental responsibility by crafting a pragmatic EPR law. This legislation serves as a vital framework for reducing the environmental impact of plastic waste, balancing the need for sustainability with the realities of corporate operations. At its core, the EPR law recognizes two critical components: upstream measures, which address waste prevention at the source, and downstream measures, which focus on post-consumer waste recovery and recycling. While these measures are interconnected, the current implementation places disproportionate emphasis on downstream recovery efforts, leaving upstream strategies largely underdeveloped and underutilized.

Upstream measures play a transformative role in waste reduction by targeting the root causes of plastic pollution. These strategies involve redesigning products and adopting materials and systems that minimize environmental harm. For example, eco-design principles encourage companies to rethink how products are created, ensuring they are less resource-intensive and more sustainable. The use of alternative materials, particularly those that can replace single-use plastics, can significantly reduce the reliance on non-recyclable packaging. Additionally, reusable packaging systems and refill stations promote a circular approach, extending the lifecycle of materials and reducing overall waste generation. These proactive measures not only mitigate the environmental impact of plastics but also position companies as leaders in sustainability.

However, the existing EPR framework in the Philippines falls short of adequately supporting or incentivizing these upstream initiatives. While downstream measures such as recycling and plastic crediting have clear targets and mechanisms for accountability, upstream measures lack similar clarity. This absence of specific guidelines and measurable incentives creates an imbalance that may inadvertently steer companies toward recovery efforts rather than prevention. Furthermore, the current definition of “plastic footprint” in the law remains ambiguous, leaving uncertainty about whether it encompasses only the volume of plastic sold or includes all manufactured and imported products. Without clear metrics and delineation, companies face challenges in effectively integrating upstream measures into their sustainability goals.

One of the most critical gaps in the current approach is the lack of a pointing system or similar incentive mechanism for upstream actions. A structured pointing system could provide the necessary drive for companies to invest in prevention-focused strategies. By offering clear guidelines, this system could establish measurable standards for practices like eco-design, plastic reduction, and the adoption of reusable packaging. Additionally, it could reward innovation and recognize companies that lead in sustainability, fostering a culture of accountability and public trust. Such a system would shift the focus of the EPR framework, ensuring that upstream and downstream measures are treated as equally essential components of a holistic waste management strategy.

To address these shortcomings, the government must prioritize the development of clear, adaptable regulations that cater to the diverse industries operating in the Philippines. These regulations should explicitly outline how companies can implement upstream measures and how these efforts will be monitored and assessed. Robust enforcement mechanisms are also essential to ensure compliance and provide accurate data on the progress of both upstream and downstream initiatives. Moreover, the EPR framework should remain dynamic, with periodic evaluations and updates to align with global sustainability practices and evolving waste management technologies.

As the EPR law continues to mature, the integration of upstream measures into its core objectives will be essential for its long-term success. By addressing the current gaps and introducing a comprehensive pointing system, the Philippines can encourage companies to adopt innovative, prevention-focused solutions. This shift not only supports the nation's sustainability goals but also positions the Philippines as a global leader in balanced and impactful waste management practices.



Top-Down Approach & Inclusivity Issues: The Need for a Participatory Framework

The implementation of the EPR Act in the Philippines has brought to light the challenges associated with a top-down approach to waste management. While the resolution has been successful in engaging large corporations and central government bodies, it has struggled to effectively include local communities, and smaller businesses in the process.

Before the enactment of the EPR law, the responsibility for managing waste in the Philippines primarily fell on LGUs, which often struggled with insufficient capacity and resources, particularly in handling the increasing volume of plastic waste (Ibañez, 2021). According to reported diversion rates in 2021, LGUs within Metro Manila achieved 54% while those outside reached 72%. Despite these efforts, a substantial portion of waste, particularly plastics, remains at risk of mismanagement, improper disposal, and environmental leakage (Senate Economic Planning Office, 2023).

Favoring Large Corporations and Central Government Bodies

The current top-down approach to EPR implementation has primarily benefited large corporations and central government bodies. These entities have the resources, expertise, and influence to navigate the complex regulatory landscape and to shape the direction of the EPR program.

OEs, in particular, have been able to leverage their substantial resources to invest in waste management initiatives and to influence the pricing of plastic credits. They have also been able to establish partnerships with PROs and other stakeholders to ensure their compliance with the EPR Act.

Similarly, national government agencies have played a dominant role in the implementation of the EPR Act, setting the overall direction and priorities of the program. While this has allowed for a coordinated and centralized approach to waste management, it has also limited the ability of local communities and smaller businesses to have their voices heard and their needs addressed.

Despite initial progress in launching the EPR Act, the corporate-led, top-down implementation has concentrated power among large companies and central authorities, creating unintended consequences across the waste management ecosystem. These entities, with their substantial resources and expertise, have shaped the program's direction while inadvertently limiting the participation of smaller businesses and local communities.

Exclusion of Local Communities and Smaller Businesses

The **top-down approach has resulted in the exclusion of local communities and smaller businesses from the EPR implementation process.** These stakeholders often lack the resources, expertise, and influence to effectively engage with the EPR program and to have their needs and concerns addressed.

Smaller businesses, in particular, have struggled to comply with the EPR Act, as they often lack the necessary infrastructure, resources, and support to adopt sustainable waste management practices. The divergence in perceptions between large corporations and smaller businesses underscores the necessity for a more inclusive approach to compliance that addresses the unique challenges faced by smaller enterprises (Nestlé Philippines, 2023).

Local communities have also been largely excluded from the EPR implementation process. **Mechanisms for incorporating insights from these communities remain underdeveloped**, limiting the EPR law's ability to evolve effectively over time (Portugal, 2021; Nestlé Philippines, 2023). **This lack of community engagement has resulted in a disconnect between the priorities of the EPR program and the needs and concerns of local populations.**

The exclusion of informal waste workers is another significant issue. The integration of these workers into formal supply chains remains limited, complicating efforts to monitor their contributions to recycling and recovery (Greenpeace Philippines, 2024). Initiatives like the "Kuha sa Tingi" project have highlighted the importance of engaging informal waste workers and the need for consistent communication and reliable resource availability (Greenpeace Philippines, 2024).



Towards a More Inclusive and Participatory Framework

To address the challenges associated with the top-down approach and **to foster a more inclusive and participatory framework for EPR implementation, a bottom-up, holistic approach needs to be taken.** This approach should focus on building inclusive supply chains, ensuring fair pay across the entire supply chain, and engaging all stakeholders in the decision-making process (Figure 20).

First, **targeted support and resources must be provided to smaller businesses and local communities to enable their effective participation in the EPR program.** This includes technical assistance, infrastructure support, and capacity building initiatives that address the unique needs and challenges of these stakeholders (Nestlé Philippines, 2023; World Bank Group, 2021).

Second, **mechanisms for incorporating insights and feedback from local communities and smaller businesses must be established.** This can include regular consultations, participatory decision-making processes, and the creation of platforms for dialogue and collaboration between different stakeholders. By actively seeking input from these stakeholders and incorporating their perspectives into the EPR program, a more inclusive and responsive framework can be developed.

Third, efforts must be made to **formalize and integrate informal waste workers into the EPR program.** This can include offering training, logistical support, and financial incentives to these workers, as well as establishing partnerships between informal and formal waste management sectors. Ensuring fair pay and decent working conditions for informal waste workers is crucial for building an inclusive and equitable supply chain.

Finally, the EPR program must **prioritize community engagement and infrastructure support** to fully improve recycling rates and to ensure the accessibility and affordability of sustainable waste management practices for all stakeholders. This includes investing in local waste management infrastructure, promoting education and awareness campaigns, and fostering partnerships between communities, businesses, and government bodies (Box 10).

As the Philippines continues to implement the EPR Act, it is **crucial to shift towards a bottom-up, holistic approach that prioritizes the needs and concerns of local communities and smaller businesses, and engages all stakeholders in the process.** By building inclusive supply chains, ensuring fair pay, and fostering collaboration and participation, the country can work towards a more sustainable, equitable, and effective waste management system.

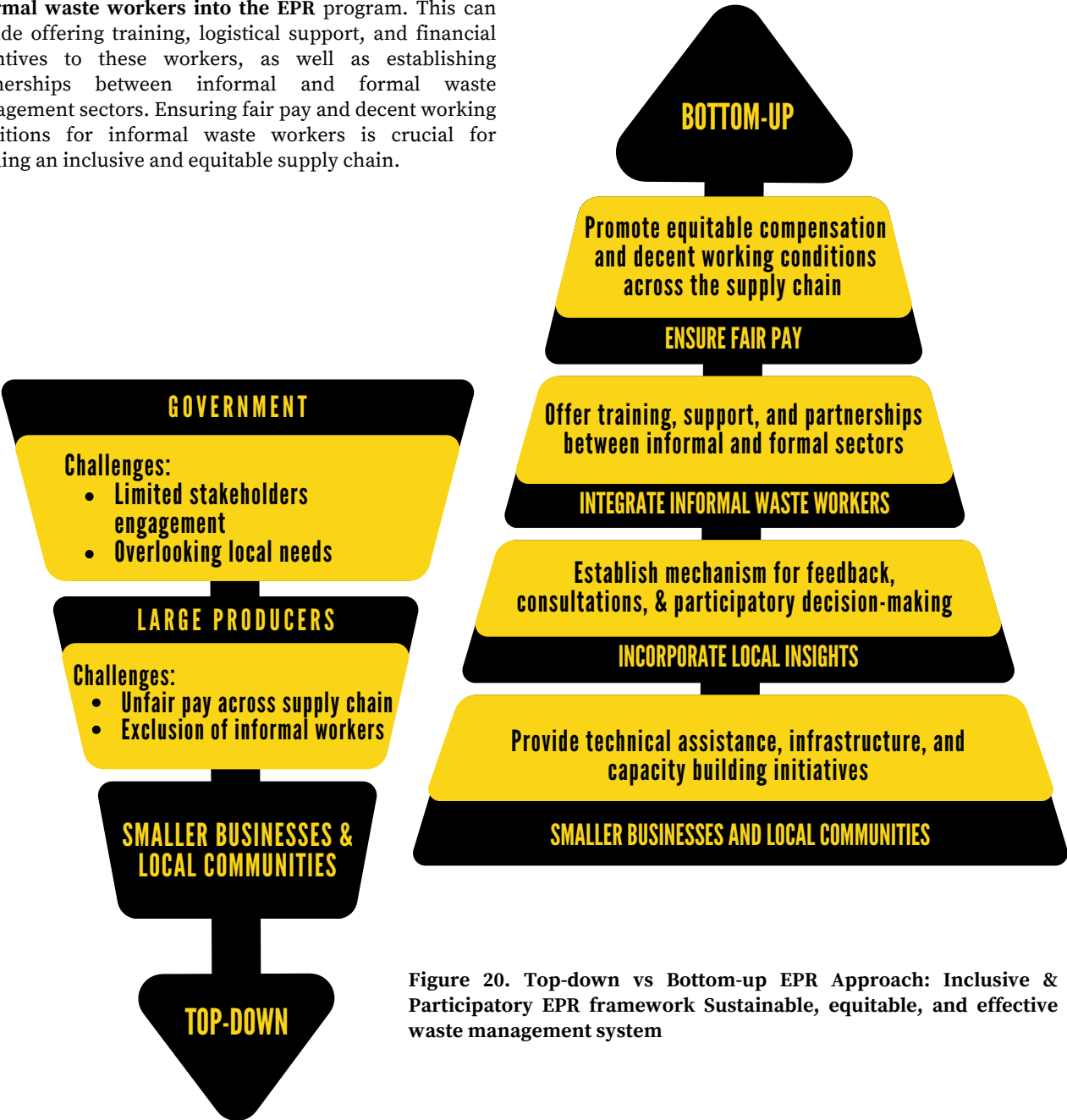


Figure 20. Top-down vs Bottom-up EPR Approach: Inclusive & Participatory EPR framework Sustainable, equitable, and effective waste management system

INCENTIVIZED COLLECTION PROGRAMS

Several community-driven waste management programs across the Philippines are making significant strides in promoting environmental sustainability and reducing plastic waste. These initiatives are not only addressing waste management challenges but also empowering communities to actively participate in creating a cleaner environment.

Evergreen Labs is implementing exchange programs in local communities, incentivizing residents to exchange recyclable plastics for essential goods like groceries, rice, or other food items. This program, which spans different locations, fosters local participation and raises awareness about the environmental impact of plastic waste all while strengthening social ties within the community.

In addition to the recycling incentive, the program also incorporates workshops and campaigns to educate residents about waste segregation, recycling, and environmental stewardship, helping to cultivate a culture of sustainability within the community.

These collection programs share a common focus on engaging residents, reducing waste, and fostering long-term sustainable practices through creative incentives and educational efforts. By combining community involvement with practical solutions, Evergreen Labs is helping to build cleaner, greener, and more resilient communities across the country.

The programs are currently being implemented in Ajuy, Iloilo, Brgy. Bahay Toro, Quezon City, and Brgy Addition Hills, Mandaluyong, among other sites.



Transparency & Auditing Challenges: Ensuring Accountability in EPR Implementation

The implementation of the EPR Act in the Philippines has brought to light the critical importance of transparency and effective auditing in ensuring the success and credibility of the program as noted in previous sections. However, several challenges have emerged in these areas, hindering the ability to accurately track progress and maintain accountability.

Lack of Transparency in Data Reporting

One of the **most significant challenges in achieving full transparency in the EPR program is the inconsistent data reporting across stakeholders** (Globe Telecom, Inc., 2023). This lack of consistency makes it difficult to obtain a clear and comprehensive picture of the program's effectiveness and to identify areas for improvement.

Moreover, the **lack of comprehensive data on recycled materials** raises concerns about resource flow transparency, potentially undermining stakeholder trust and engagement (Inquirer Business, 2020). Without reliable and transparent data, it becomes challenging to assess the true impact of the EPR program and to make informed decisions about its future direction.

Misclassification of Plastic Waste

Another significant issue affecting transparency is the misclassification of plastic waste. **Incomplete SKU listings, improper plastic classification, and missing documents reduce the reliability of the data being reported.** This misclassification not only hinders the ability to accurately track the flow of plastic waste but also creates risks of double counting, as misclassification and improper SKU consolidation increase tracking inconsistencies.

The misclassification of plastic waste can lead to a distorted picture of the EPR program's effectiveness, as it may overstate or understate the amount of plastic waste being collected, recycled, or diverted. This, in turn, can lead to misguided decision-making and a lack of trust in the program's ability to achieve its goals.

The Need for Stronger Independent Audits

To address these transparency and accountability challenges, there is a pressing need for stronger independent audits. First-hand discussions with auditors put **emphasis on the critical role of independent third-party audits in ensuring accountability and transparency in EPR compliance** (Auditor Interview, 2024). These audits enhance the credibility of reported data and help identify areas for improvement, ultimately supporting better adherence to regulations.

However, the lack of robust government enforcement of sustainability mandates has hindered the effectiveness of auditing processes. Stakeholders emphasize the urgent need for clearer mandates and stronger incentives to promote widespread adoption of sustainable practices and to ensure the integrity of the auditing process (UNEP, 2022).

To strengthen the auditing process, several steps need to be taken. First, there must be a clear and consistent set of guidelines and standards for data reporting and classification. This includes establishing mandatory reporting requirements and providing digital tools to track and publish data for better accountability.

Second, there must be a concerted effort to build the capacity of independent auditors and to ensure their independence and impartiality. This can include providing training and resources to auditors, establishing clear codes of conduct, and ensuring that auditors are free from conflicts of interest.

Finally, there must be a strong enforcement mechanism in place to ensure compliance with auditing requirements and to hold stakeholders accountable for any discrepancies or misreporting. This can include penalties for non-compliance, public disclosure of audit results, and regular monitoring and evaluation of the auditing process.

As the Philippines continues to implement the EPR Act, addressing these transparency and auditing challenges will be crucial for ensuring the program's success and credibility. By establishing clear guidelines, building the capacity of independent auditors, and strengthening enforcement mechanisms, the country can work towards a more transparent, accountable, and effective waste management system.

The Philippines' EPR Act faces challenges in transparency and auditing, impacting program credibility and accountability. Inconsistent data reporting and misclassification of plastic waste hinder accurate tracking and decision-making. Stronger independent audits and government enforcement are needed to improve oversight, ensure compliance, and build trust. Addressing these issues will support a more transparent, accountable, and effective waste management system.

Geographical Disparities: Bridging the Urban-Rural Divide in EPR Performance

The implementation of EPR and waste management initiatives in the Philippines reveals a stark contrast between urban and rural areas, highlighting significant geographical disparities in access, infrastructure, and public engagement. This disparity is evident in the stark contrast between Metro Cities, generating over 1,000 tons daily with 90-95% collection rates, and Remote Areas with under 50 tons and merely 10-15% collection. While tourist areas maintain high collection rates due to economic priorities, these urban-rural gaps reflect broader challenges in infrastructure and resources across Philippine regions (**Box 11**).

In urban centers, recycling programs have gained considerable traction, driven by corporate initiatives and heightened public awareness. Cities like Parañaque and Bacolod exemplify this progress through innovative programs such as Eco-Ikot Centers, which incentivize residents to recycle by offering rewards for their recyclables (Philippine News Agency, 2022; Guadalquivir, 2024). These urban success stories demonstrate the potential of well-executed recycling programs to engage communities and reduce waste effectively.

Corporate-led initiatives have further bolstered recycling rates in urban areas. Notable examples include Green Antz's eco-bricks project, which have not only improved waste management but also raised public awareness about the importance of sustainable practices.

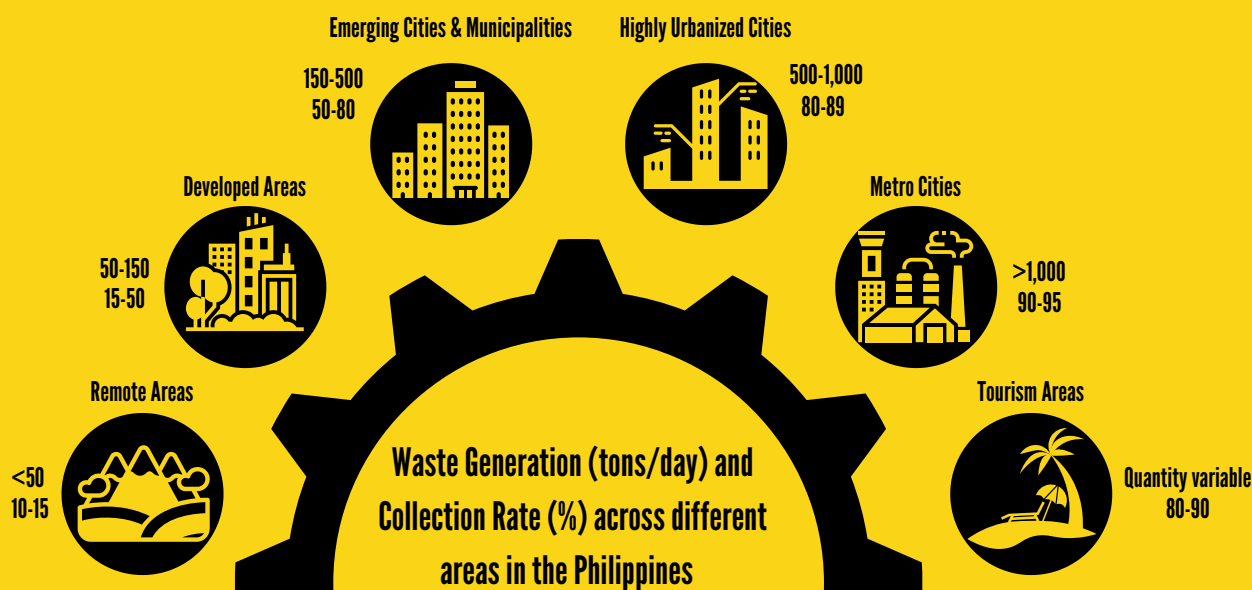
However, this urban success stands in sharp contrast to the challenges faced by rural communities. While pilot programs focusing on solid waste segregation have been initiated, their widespread adoption remains limited in rural areas. LGUs in these regions struggle to implement consistent waste management practices, often due to resource constraints and inadequate infrastructure (EPR law on plastic waste will succeed as all sectors work together). This is clearly demonstrated in the regional data, where access to SLF varies dramatically across the country. While NCR achieves 100% SLF coverage and Region III follows with 87.69% of LGUs served by proper sanitary landfills, most regions show concerning gaps in coverage. The disparities become stark when looking at regions like IX and BARMM, where only 2.78% and 0.85% of LGUs, respectively, have access to SLFs. Even regions with substantial financial assistance balances for MRFs, such as Region II (₱16.6M) and Region VIII (₱16.9M), show relatively low SLF coverage rates at 50.54% and 7.69%, respectively (**Box 12**).

The disparity is further evidenced by the experiences of rural households, who report difficulties stemming from inconsistent waste collection and unclear recycling guidelines. These challenges can significantly deter participation in recycling programs, creating a cycle of low engagement and limited progress (Capillas, 2024).

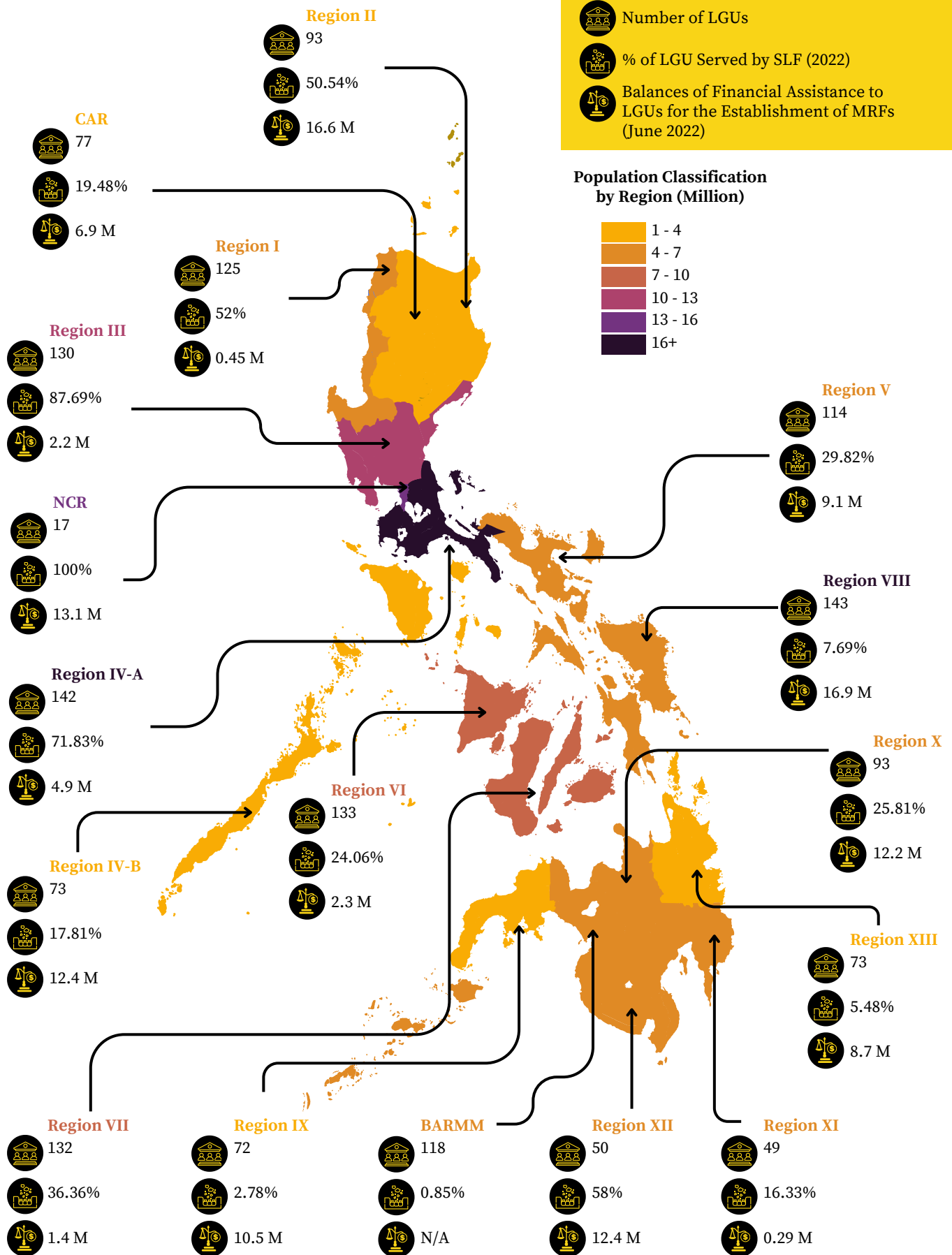
The geographical divide extends beyond household recycling to affect local enterprises and waste management companies. Smaller operations, particularly in rural areas, face dissatisfaction due to limited access to advanced technologies. This technological gap hampers their ability to compete and innovate in the waste management sector (COA - Republic of the Philippines, 2023).

BOX 11

WASTE COLLECTION COVERAGE ACROSS DIFFERENT AREAS IN THE PHILIPPINES



GEOGRAPHICAL WASTE OVERVIEW



Moreover, the social benefits and job opportunities created by the EPR law are not evenly distributed across the country. Rural areas, where recycling programs are slower to develop, often miss out on these advantages. Informal workers and smaller communities face barriers to accessing the benefits of EPR, hindered by limited resources and inadequate infrastructure (OECD EPR).

The geographical divide is also apparent in consumer behavior and perceptions of sustainability. Despite positive reception to sustainable alternatives in urban areas, many consumers—especially those in lower-income brackets and rural regions—continue to rely on single-use sachets due to convenience and affordability. This reveals a significant divide in perceptions and practical implementation of material sustainability across different geographical and socioeconomic contexts (Tiu, 2024).

To address these geographical disparities, **there is a pressing need for more coordinated efforts to scale recycling nationwide.** Ensuring accessibility of recycling programs across all regions should be a priority, with particular focus on supporting rural areas and smaller local governments in adopting EPR-driven practices (**Box 13**). This may involve targeted infrastructure development, capacity building for local authorities, and awareness campaigns tailored to rural contexts.

In conclusion, while urban centers in the Philippines have made significant strides in implementing effective waste management and recycling programs, rural areas lag behind due to a combination of infrastructural, economic, and awareness-related challenges. Bridging this geographical divide will be crucial for the success of the EPR law and the overall improvement of waste management practices across the nation.



BOX 13 CASE STUDY: AJUY

Since 2019, the Municipality of Ajuy in Iloilo has progressively developed a robust waste management system focused on the collection of segregated waste and flexible recovery materials. Extending its reach across 24 barangays and three islands, Ajuy's system demonstrates a substantial capacity for waste handling and community engagement.

One of Ajuy's most impactful initiatives is its plastic waste barter program, aimed at minimizing plastic waste through community-driven efforts. The program operates on a barter system, allowing residents to exchange recyclable plastics for goods or services. This approach not only incentivizes recycling but also fosters a sense of community responsibility and active participation in environmental sustainability efforts.

Ajuy's LGU collects all types of plastic, managing PET and rigid plastics by trading them with a nearby aggregator. Flexible plastics, on the other hand, are stored at their Materials Recovery Facility (MRF) until a buyer can be secured. In an effort to repurpose these materials, the LGU shreds plastics and collaborates with organizations like Villar Sipag, exchanging shredded plastics for school chairs—a step towards closing the loop on plastic waste and providing tangible benefits for the community.

With the advent of the EPR law, Ajuy has attracted interest from organizations looking to partner on larger-scale plastic collection and sustainable product development. The LGU's efforts not only align with EPR goals but position Ajuy as a key player in diversion programs, transforming plastic waste into valuable resources and sustainable products.



CHAPTER 4

LESSONS LEARNED FROM THE FIRST YEAR OF EPR IMPLEMENTATION

Corporate Engagement and Innovation

The first year of EPR implementation has demonstrated the significant potential of large corporations in driving sustainability initiatives. These industry leaders have set benchmarks for waste management and recycling practices, often through innovative approaches and substantial investments. Collaborative efforts between companies have led to notable advancements in recycling technologies and waste reduction strategies. Various MNCs such as Nestlé Philippines, Colgate-Palmolive Philippines, and Coca-Cola Philippines have shown how cross-industry collaboration can accelerate progress in sustainable waste management.

Corporate-led initiatives have been particularly effective in urban centers, highlighting the impact of targeted sustainability programs. However, this success also underscores the need for similar initiatives in less-served areas to ensure equitable progress across the country.



Corporate Sustainability Leadership

Large corporations have shown significant potential in driving sustainability initiatives through EPR



Cross-Industry Collaboration

Cross-industry collaborations have accelerated progress in sustainable waste management



Urban Success

Corporate-led initiatives have been particularly effective in urban centers



Equitable Progress Needed

Success in urban areas highlights the need for similar initiatives in less-served regions to ensure equitable progress



MSME Participation & Challenges

While large corporations have made strides in EPR compliance, MSMEs face considerable hurdles. The primary challenges include:



Limited resources and access to advanced technologies



Higher financial burden of compliance relative to their size



Inadequate infrastructure, particularly for rural-based MSMEs



Limited access to recycling services and established collection systems

These challenges have created a notable disparity between large corporations and smaller businesses in their ability to adopt sustainable practices. The struggle of MSMEs to fully participate in EPR initiatives highlights the need for targeted support and more inclusive policies to level the playing field.

Informal Waste Sector Integration

The informal waste sector has emerged as a crucial yet underrecognized component of the waste management ecosystem. This sector plays a vital role in collection efforts, often reaching areas and materials that formal systems miss. However, the lack of integration of informal waste workers into formal waste management systems has led to several issues:



Inefficiencies in the overall waste management process



Missed opportunities to improve collection rates and data accuracy



Continued economic and social vulnerability of informal waste workers

Integrating this sector presents an opportunity to improve both waste collection rates and the livelihoods of informal workers, while also enhancing the overall efficiency of the EPR system.



Geographical Disparities

The implementation of EPR has revealed significant geographical disparities, particularly between urban and rural areas. Urban centers have generally seen greater success, benefiting from better infrastructure and higher awareness levels. In contrast, rural areas face multiple challenges:



Lack of adequate waste management infrastructure



Lower awareness and participation rates in recycling programs



Limited access to advanced recycling technologies for local enterprises

These disparities extend beyond household recycling to affect local businesses, waste management companies, and even consumer behavior regarding sustainability. The lessons learned highlight the need for targeted, region-specific approaches to address these geographical imbalances effectively.

Role of Producer Responsibility Organizations

PROs have played a significant role in facilitating EPR compliance for many businesses. However, their operations have revealed some concerning trends:



Preference for short-term, cost-effective solutions over long-term sustainability



Focus on low-cost diversion methods that may not align with broader environmental goals



Lack of long-term commitment to developing sustainable waste management practices

These observations highlight the need for a reevaluation of the role and responsibilities of PROs to ensure they balance cost-effectiveness with the pursuit of more sustainable and impactful waste management solutions.



Data Management and Transparency

Challenges in data management and transparency have emerged as significant hurdles in assessing the effectiveness of the EPR program. Inconsistent reporting practices and data misclassification have hindered accurate tracking of progress. The lack of comprehensive data on recycled materials has raised concerns about resource flow transparency, potentially undermining stakeholder trust and engagement.

These issues underscore the need for:



Stronger auditing processes



Clearer reporting guidelines and standards



Improved mechanisms for data collection and verification

Addressing these challenges is crucial for building program credibility and enabling data-driven improvements to the EPR system (Box 14).

BOX 14

DIGITAL TOOLS FOR TRANSPARENCY

In the Philippines, the implementation of Extended Producer Responsibility (EPR) for managing plastic waste is underpinned by a variety of digital platforms. These tools enhance accountability, traceability, and circularity, ensuring alignment with the EPR law. By enabling companies, regulatory agencies, and NGOs to monitor, report, and manage plastic waste across the supply chain, these platforms play a crucial role in supporting sustainability goals.

1. PRO Digital Platforms

Producer Responsibility Organizations (PROs) operate specialized digital platforms tailored to help businesses comply with EPR requirements. These platforms facilitate efficient reporting, tracking, and sustainability efforts.

- **Plastic Credit Exchange (PCX):** PCX provides a marketplace for plastic credits, enabling businesses to offset their plastic footprint by funding verified projects for plastic recovery, recycling, and responsible disposal. Through transparent and measurable transactions, PCX ensures that companies contribute directly to sustainable waste management initiatives while meeting their EPR compliance goals.

- **PARMS EPR Portal:** Developed by the Philippine Alliance for Recycling and Materials Sustainability, the PARMS EPR Portal simplifies adherence to Republic Act 11898. It offers tools for Obligated Enterprises (OEs) to submit reports, access resources on sustainable waste management practices, and connect with verified waste collection and recycling partners. The portal streamlines compliance activities, ensuring both efficiency and transparency in EPR reporting and execution.

2. Governmental Monitoring Systems

Philippine government has implemented digital monitoring systems through the Department of Environment and Natural Resources (DENR). These systems are designed to centralize data collection and streamline the reporting of plastic usage, recovery efforts, and compliance metrics. By ensuring efficient data management, these governmental platforms enable policymakers to monitor company compliance, assess recovery targets, and evaluate the effectiveness of sustainability measures. This centralized approach not only strengthens enforcement but also provides valuable insights for refining waste management policies.

3. Integrated Private Platforms

Inclusiv by ASM Global (previously EXN platform), further enhance the digital infrastructure for EPR compliance. Inclusiv stands out for its universal accessibility, catering to a wide range of stakeholders, including waste pickers, junk shops, recyclers, corporations, and government entities. The platform offers advanced tools such as Digital Product Passports (DPPs), real-time tracking, and chain-of-custody solutions, enabling stakeholders to monitor material flows, verify certifications, integration into audit companies, and ensure compliance with regulatory requirements.

Inclusiv's secure ledger system records every step of the supply chain, creating an auditable chain of custody that enhances transparency and identifies inefficiencies in waste management. Additionally, its Plastic Credit Generation module allows companies to generate verified credits tied to actual waste recovery, safeguarding against double counting and ensuring meaningful environmental impact. The platform fosters collaboration by connecting diverse stakeholders on a unified system, streamlining data sharing, and enhancing communication about environmental outcomes. Inclusiv's analytics tools empower businesses to monitor compliance, track progress, and generate comprehensive reports for regulatory authorities, building credibility with consumers and stakeholders alike.

Together, these digital platforms form a robust foundation for EPR compliance in the Philippines. By addressing the needs of various stakeholders—from large corporations to community-level waste collectors—they enhance transparency, accountability, and operational efficiency. This interconnected digital ecosystem strengthens the country's capacity to meet its sustainability targets and underscores the transformative potential of technology in environmental management.

Financial Incentives and Motivations

The absence of robust fiscal incentives has emerged as a limiting factor in broadening engagement with the EPR program, particularly among MSMEs. Current participation is primarily driven by regulatory pressure and corporate responsibility rather than financial motivation. This lack of financial incentives has resulted in:



Limited investment in recycling technologies and environmental innovations



Reduced participation from smaller stakeholders who view compliance as a financial burden



A focus on meeting minimum requirements rather than pursuing innovative solutions

The introduction of well-designed financial incentives could potentially increase participation and investment in sustainable practices across a broader range of businesses.

Community Impact and Engagement

Despite progress at the corporate level, the impact on waste reduction and management behaviors at the community level has been limited. This disconnect between corporate sustainability initiatives and grassroots-level waste management practices points to the need for:



Enhanced community engagement programs



Targeted educational outreach to increase awareness and participation



Efforts to translate corporate initiatives into tangible community-level improvements

Bridging this gap is essential for the long-term success and sustainability of the EPR program, ensuring that efforts at the corporate level translate into meaningful changes in waste management practices across all sectors of society.

These lessons learned provide valuable insights into the complexities of implementing the EPR program in the Philippines, highlighting areas of success, revealing persistent challenges, and indicating opportunities for improvement as the program continues to evolve.





CHAPTER 5

FUTURE OUTLOOK AND RECOMMENDATIONS

The first year of EPR implementation in the Philippines as it stands (**Figure 21**) has revealed both promising developments and significant challenges that need to be addressed to ensure the program's long-term success. This section outlines key recommendations and strategic directions based on the comprehensive analysis of current implementation patterns and stakeholder experiences.

Strengthening Financial Support and Incentive Mechanisms

The absence of robust fiscal incentives has emerged as a significant barrier to broader EPR engagement, particularly among smaller enterprises. While large corporations have demonstrated willingness to invest in sustainable practices, MSMEs continue to view compliance as a financial burden (Nestlé Philippines, 2023). To address this disparity, a comprehensive fiscal support framework is essential.

The government should introduce targeted financial incentives, including tax credits and accelerated depreciation schemes for investments in recycling infrastructure. These incentives should be directly tied to environmental performance metrics, rewarding businesses that exceed minimum compliance requirements and demonstrate innovation in waste reduction strategies. Additionally, the establishment of green bonds and grants specifically for EPR-related projects could provide much-needed capital for infrastructure development and technological advancement.

Enhancing Infrastructure and Technical Capacity

The geographical disparities in recycling infrastructure and technical capacity require immediate attention. Urban centers have benefited from corporate initiatives and advanced facilities, while rural areas continue to struggle with basic waste management infrastructure (COA - Republic of the Philippines, 2023).

Priority should be given to developing MRFs in underserved regions and providing technical support to LGUs. This infrastructure development should be accompanied by standardized training programs for waste management operators and technology transfer initiatives between urban and rural areas. The success of localized programs, like Biñan City's eco-brick production and Guimaras Island's eco-lumber initiative, showcases how community-driven waste management solutions can effectively reduce plastic waste with the right support. In Biñan City, residual plastics are repurposed into eco-bricks and hollow blocks, which are then donated to local schools, organizations, and barangays for construction projects. This not only helps manage plastic waste but also benefits public infrastructure by providing materials for sidewalks, pathways, and school buildings. In Guimaras Island, discarded plastics are collected from local municipalities and processed into eco-lumber. These products, made

from carefully sorted plastics, serve as sustainable building materials for construction and furniture, giving new value to waste and promoting green innovation.

Fostering Inclusive Stakeholder Engagement

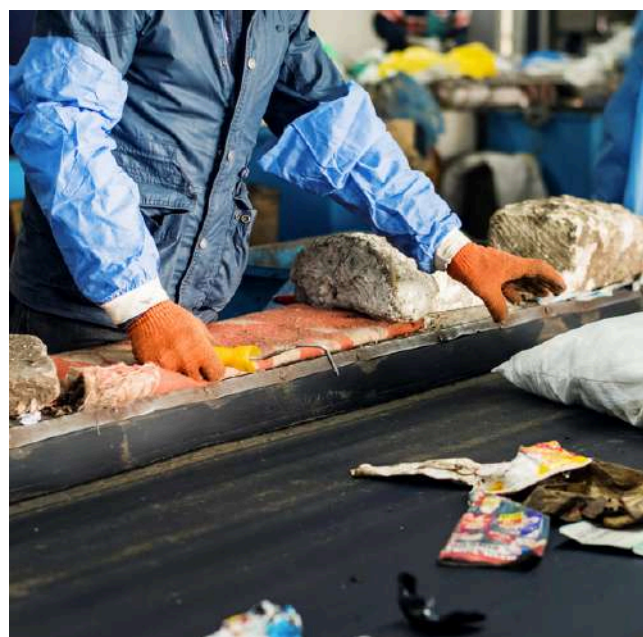
The current top-down approach to EPR implementation has limited the participation of crucial stakeholders, particularly informal waste workers and MSMEs. A more inclusive framework is necessary to ensure the program's success and sustainability. The integration of informal waste workers into formal waste management systems should be prioritized, with clear pathways for training, certification, and fair compensation (Greenpeace Philippines, 2024).

Support mechanisms for MSMEs must be established to enable their effective participation in EPR programs. This includes technical assistance, capacity building initiatives, and access to financing options. Community-based recycling initiatives, such as the successful "Kuha sa Tingi" project, should be scaled up and replicated across different regions, with clear incentive structures to encourage participation.

Improving Transparency and Accountability

Data management and transparency challenges have hindered accurate assessment of the EPR program's effectiveness. Inconsistent reporting practices and data misclassification have created significant gaps in understanding the true impact of current initiatives (Globe Telecom, Inc., 2023).

The implementation of standardized reporting protocols and clear audit guidelines is essential. Digital tracking systems for plastic waste management should be developed and integrated across all stakeholders. The establishment of an independent monitoring mechanism would enhance credibility and ensure compliance with EPR requirements.



Addressing Geographical Disparities

The stark contrast between urban and rural implementation of EPR initiatives requires a targeted approach to bridge the divide. Rural areas face multiple challenges, including inadequate infrastructure, limited awareness, and insufficient resources (World Bank Group, 2021).

A comprehensive strategy for rural areas should include:

- Prioritized infrastructure development with sustainable funding mechanisms
- Enhanced support for local governments in implementing waste management programs
- Targeted awareness campaigns tailored to rural communities
- Development of regional recycling hubs serving multiple communities
- Improved transportation networks for efficient waste collection

Critical Success Factors

The success of these recommendations depends on several key factors:

Strong Government Leadership: Consistent enforcement of regulations and clear policy guidelines are essential. The government must demonstrate sustained commitment through adequate resource allocation and policy support.

Private Sector Commitment: The continued investment in recycling infrastructure and adoption of innovative technologies by the private sector is crucial. Larger corporations should support smaller stakeholders in their sustainability journey.

Community Participation: Active engagement in recycling programs and behavioral change towards waste reduction must be fostered through education and incentive programs.

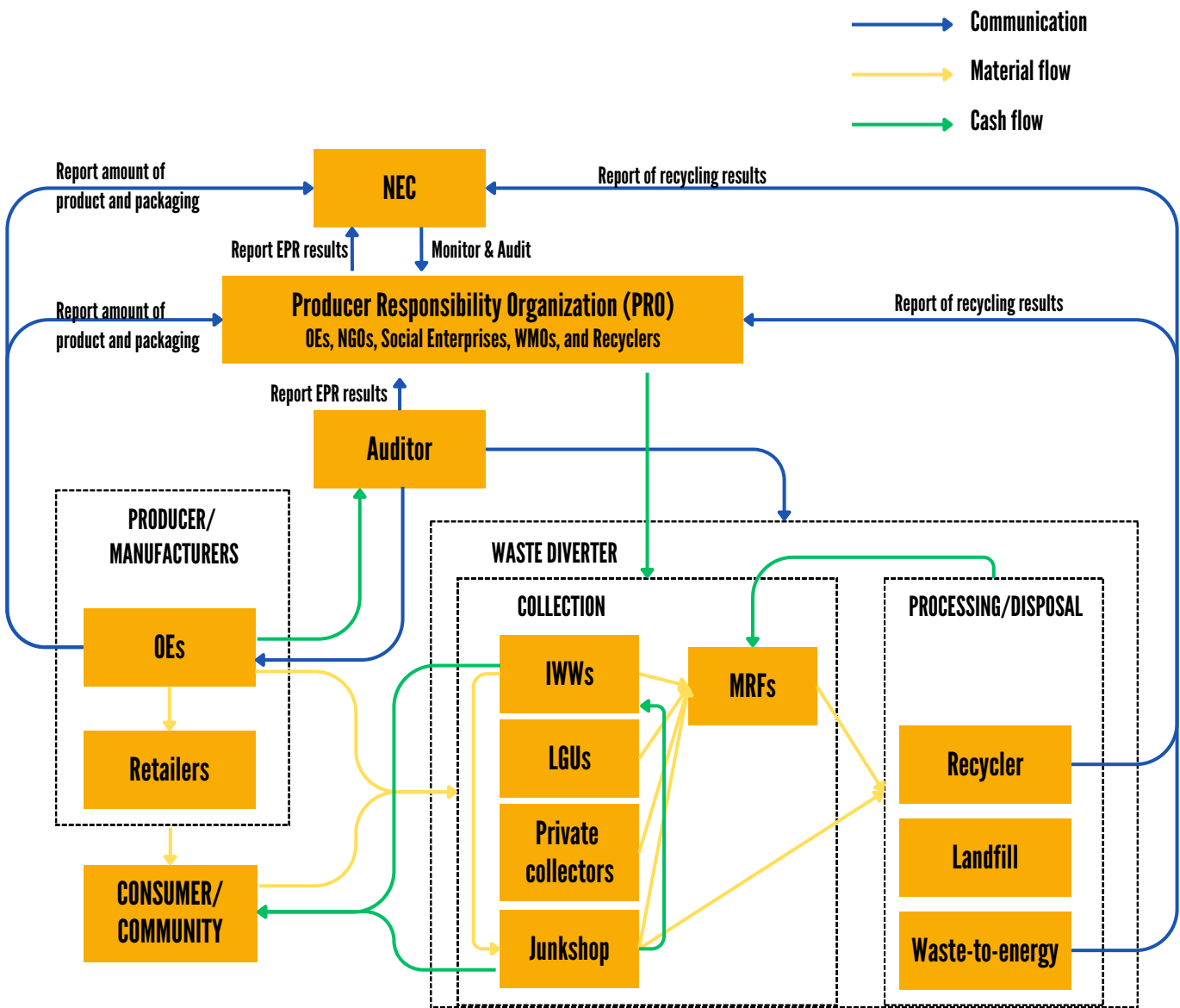


Figure 21. EPR scheme in the Philippines after one-year of implementation

Looking Forward

The path to effective EPR implementation requires a balanced approach that addresses both immediate challenges and long-term sustainability goals. Success will depend on sustained commitment from all stakeholders and regular monitoring of progress against established targets. The emergence of innovative technologies and growing corporate commitment to sustainability presents promising opportunities for the future of waste management in the Philippines.

Technological advancements in recycling and waste tracking systems are expected to play an increasingly important role. Digital platforms for waste management and blockchain-based traceability systems could revolutionize how plastic waste is tracked and managed across the supply chain (World Bank Group, 2021). The success of pilot programs like digital tracking systems and automated sorting facilities suggests that technology will be a key enabler of future progress.

The growing global emphasis on circular economy principles presents opportunities for the Philippines to position itself as a leader in sustainable waste management practices in Southeast Asia. Successful initiatives like Republic Cement's co-processing program, Nestlé's plastic neutrality achievements, and Colgate-Palmolive's recycling-ready packaging demonstrate the potential for large-scale impact when innovation meets commitment (Philstar, 2021).

As consumer awareness of environmental issues continues to rise, there is potential for increased market demand for sustainable products and packaging solutions. This shift in consumer behavior, coupled with stronger regulatory frameworks, could accelerate the transition toward more sustainable packaging practices and improved waste management systems.

The future success of the EPR program will largely depend on its ability to adapt to changing circumstances while maintaining focus on its core objectives. By building on early successes, learning from challenges, and embracing emerging opportunities, the Philippines can work toward a more sustainable and circular economy that benefits both current and future generations.



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