Circonomics Training Book
Transforming Businesses through Circular Economy Practices:
For SMEs in the Philippines

CIRCONOMICS
Circular Economics for Business Transformation

ERIA
Economic Research Institute for ASEAN and East Asia

Regional Knowledge Centre for Marine Plastic Debris

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Foreword

Plastic pollution, particularly in our marine and coastal environments, remains one of the most pressing environmental challenges facing our region today. At the Regional Knowledge Centre for Marine Plastic Debris (RKC-MPD) of ERIA, our mission is to support the ASEAN+3 Member States in improving the circularity of plastics and preventing leakage into the marine environment.

Recognising the critical role of small and medium-sized enterprises (SMEs) – the backbone of ASEAN economies – the transition to a circular economy presents both a challenge and an opportunity for the region's sustainable future. Across ASEAN, including the Philippines, the prevailing linear model of taking, making, using, and disposing has accelerated resource depletion, strained waste management systems, and exposed inefficiencies in production and consumption. These challenges have, in turn, amplified the broader impacts of plastic pollution on human health, environmental quality, and economic resilience.

The *CIRCONOMICS Training Book* represents part of our collective effort to strengthen circular economy practices amongst SMEs. Developed under RKC-MPD's Capacity-Building Programme at ERIA, it provides enterprises with practical knowledge and tools to integrate circular economy principles into their business operations. Featuring regional insights, case studies, and actionable frameworks tailored to the ASEAN context, this publication demonstrates how circular practices can open new opportunities while addressing resource scarcity and plastic waste management challenges.

This publication reflects ERIA's continued commitment to advancing the circular economy in ASEAN. In line with the ASEAN Declaration on Plastic Circularity adopted in 2024, we remain focused on promoting knowledge exchange and delivering technical assistance to the private sector – particularly SMEs. These initiatives align with RKC-MPD's mandate to strengthen national and regional capacities for improving plastic circularity and reducing plastic pollution across the region.

As ASEAN looks towards a future where economic prosperity and environmental stewardship go hand in hand, SMEs will be central to driving innovation, strengthening supply chains, and advancing sustainability goals through the adoption of circular economy principles. We encourage readers to explore the insights in this book, share knowledge, and champion circular innovation within their communities and industries. Together, let us build a thriving, inclusive, and sustainable ASEAN.

Tetsuya Watanabe
President,
Economic Research Institute for
ASEAN and East Asia

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Glossary

ASEAN
Association of Southeast Asian Nations, a regional intergovernmental organisation that promotes political and economic cooperation amongst Southeast Asian countries.

Alternative Packaging
Packaging solutions that replace conventional plastic with environmentally sound materials.

Biodegradable Packaging
Materials that break down naturally (biodegrade) in the environment without leaving harmful residues.

Bottom-up Approach
A grassroots strategy where businesses initiate CE practices voluntarily, often driven by innovation, competitiveness, or sustainability values.

Circular Economy (CE)
An economic system aimed at eliminating waste and the continual use of resources through reuse, repair, refurbishment, and recycling. It contrasts with the linear 'take-make-dispose' model.

Cradle to Cradle (C2C)
A design philosophy promoting materials that circulate perpetually in either biological or technical cycles, avoiding waste entirely.

Compostable Materials
Biodegradable substances that break down under composting conditions into non-toxic components (e.g. water, CO_2, biomass).

Design for Environment (DfE)
A product design approach that minimises environmental impact across a product's lifecycle, including material selection and end-of-life options.

Eco-Design
A product and packaging design approach that reduces environmental impact, often by eliminating excess materials, enhancing recyclability, and minimising toxins.

EPR (Extended Producer Responsibility)
An environmental policy approach where producers are responsible for the entire lifecycle of their products, particularly post-consumer waste.

EPS (Expanded Polystyrene)
A lightweight plastic used in packaging and shipping. Difficult to recycle and a major marine litter source.

Fiber-Based Packaging
Packaging made from natural fibres like paper or moulded pulp. Biodegradable and recyclable, but sensitive to moisture.

Greenhouse Gas (GHG) Emissions
Gases that trap heat in the atmosphere, contributing to climate change. The linear economy significantly contributes to GHG emissions.

High-Durability Floats EPS
Combination of EPS beads and hard plastics (e.g. PE). Long-lasting alternatives to EPS floats used in aquaculture and ports, offering improved environmental and operational performance.

Informal Waste Sector
Unregulated individuals or groups who collect and sort waste for recycling. Critical in developing countries for plastic recovery.

Linear Economy
A traditional model of production and consumption – take, make, use, dispose – which leads to waste and unsustainable resource use.

Life Cycle Thinking
Considering the environmental impacts of a product from raw material extraction to disposal or recycling.

Macro-level
Policy and institutional frameworks that shape and support circular economy implementation across nations or regions.

Meso-level
The networks and industry ecosystems that influence CE practices, such as peer businesses, associations, and industrial parks.

Micro-level
The individual business or consumer level, focusing on internal operations and behaviours that enable circular transitions.

Mono-material Packaging
Packaging made from a single type of material, improving recyclability and reducing sorting complexity.

Multi-level Perspective (MLP)
A framework for analysing CE transitions across micro, meso, and macro scales.

Natural System Regeneration
A key CE objective that emphasises restoring ecosystems by eliminating waste and reducing resource extraction.

Plastic Pollution
Environmental contamination caused by mismanaged plastic waste. A major concern in ASEAN due to marine leakage.

Problematic Plastics
Plastic types that are difficult to recycle, easily pollute ecosystems, or contain harmful additives. Often targeted for reduction or substitution.

Producer Responsibility Organisation (PRO)
Third-party entities that help businesses meet EPR obligations by organising waste collection, recycling, or reporting.

RA 11898 (EPR Act of 2022)
The Philippine law institutionalising Extended Producer Responsibility for plastic packaging, amending the Solid Waste Management Act (RA 9003).

Recyclable Plastics
Plastics like PET, HDPE, and PP that can be reprocessed and reused, often preferred in eco-design strategies.

Refill Stations
Retail points allowing consumers to refill their own containers with products like shampoo or detergent, reducing single-use packaging.

Reuse Systems
Models that allow packaging to be used multiple times, often involving deposit-refund or bring-your-own-container schemes.

Single-Use Plastics (SUPs)
Disposable plastics used once before being discarded. Includes sachets, cutlery, plastic bags, and straws.

Styrofoam
A commonly banned packaging material due to fragility, microplastic formation, and poor recyclability.

Sustainability
A principle focusing on balancing environmental, economic, and social needs for current and future generations.

Top-down Approach
CE strategies driven by government regulations, mandates, and public policy frameworks.

Unnecessary Plastics
Plastic items that offer little or no functional value, such as excessive packaging or decorative elements.

Virgin Materials
Newly extracted raw materials used for manufacturing, often contrasted with recycled inputs in CE discussions.

Chapter 1

Introduction and the Importance of Circular Economy

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1. The Impact of Linear Business and the Importance of Circular Economy Models

Definition of Circular Economy

Circular Economy (CE) is a system where materials never become waste and nature is regenerated (Ellen MacArthur Foundation). This concept challenges the place of plastics within the existing linear economy, where it can be described as a 'take, make, use, dispose' model. It aims to keep resources in the system or use for as long as possible, maximising value while in use, and regenerating plastic at the end of their end-of-life. In addition, a circular economy model seeks to phase out toxins, waste and pollution, and regenerate natural systems (UNDP, 2019).

According to Kirchherr (2017), a circular economy describes an economic system that is based on business models which replace the 'end-of-life' concept with reducing, alternatively reusing, recycling, and recovering materials in production/ distribution and consumption processes, thus operating at the micro-level (products, companies, consumers), meso-level (eco-industrial parks), and macro-level (city, region, nation, and beyond) with the aim to accomplish sustainable development, which implies creating environmental quality, economic prosperity, and social equity, to the benefit of current and future generations.

A key design philosophy within circular economic thinking is the Cradle to Cradle (C2C)[1] approach, which envisions products designed not for a single lifecycle, but to continuously flow within biological or technical cycles. In contrast to the traditional 'cradle to grave' system where materials are discarded as waste at end-of-life, C2C promotes designing products and systems so that every material can either safely return to nature (biological cycle) or be fully reclaimed and reused with no loss in quality (technical cycle). This regenerative model encourages innovation in product design, materials science, and business models to eliminate the concept of waste altogether.

According to Republic Act No.11898 Philippines, circular economy refers to an economic model of creating value by **extending product lifespan** through improved design and servicing and relocating ways from the end of the supply chain to the beginning. This intends to efficiently utilise resources by its continual use and aims to retain the highest utility and value of products, components and materials at all times, through sharing, leasing, reuse, repair, refurbishment, and recycling in an almost **closed loop**.

[1] Developed by Professor Michael Braungart and William McDonough in 2001, 'Cradle to cradle' describes the safe and potentially infinite circulation of materials and nutrients in cycles. All ingredients are chemically safe and recyclable. Waste in today's sense no longer exists, only usable nutrients.

Circular Economy for SMEs

Despite small and medium-sized enterprises (SMEs) having a vital role in the economy, in terms of growth, employment and innovation, SMEs often face greater challenges in adopting CE practices compared to larger enterprises. However, the success of implementation of major companies – IKEA, Mondelez, San Miguel – relies on the participation of the SMEs within their supply chains. Therefore, **integrating SMEs into circular economy strategies is essential** to achieving sustainability and realising a truly circular economy system.

There are 70 million micro, small, and medium-sized enterprises (MSMEs) in ASEAN, making up 97.2% to 99.9% of all business establishments in ASEAN Member States (AMS). Micro enterprises often represent the largest share, where data is available (ASEAN). According to Lessidrenska (2019), recent studies show that SMEs account for most of the private sector business and economic activity in both developed and developing countries. Thus, in most countries, SMEs play a vital role in contributing to economic growth, job creation, and ultimately circular economy transition.

While large businesses and policymakers have started adopting CE practices, small and medium-sized enterprises (SMEs) face challenges due to their **limited resources and expertise** (Ahmadov et al., 2023). By using the Multi-level Perspective (MLP)[2] framework, SMEs' transition to circular economy is analysed across different levels, explaining enablers and barriers:

Table 1.1. Different Level of SMEs Transition to Circular Economy

Micro-level (business-specific)	• **Internal factors** include (1) how managers perceive the situation, (2) organisations' ability to absorb new knowledge, and (3) its capacity to adapt and respond to change. • By having a focus on CE, SMEs can gain advantages to respond better to external pressures, such as government regulations or customer demands. • Common circular practices include recycling, remanufacturing, reusing, repairing, and refurbishing products. • **Key benefits** of CE practices are lower costs, less waste, increased efficiency, and higher profits. • Businesses/SMEs can influence meso and macro environments through advocacy and collaborative innovation.
Meso-level (networks and ecosystems)	• Business peers' collaboration and resource pooling[3] (sharing) help overcome scale limitations. • Associations, industry networks, and information sharing on training, co-design support, and technical expertise. • Customer acceptance and supply chain proximity also influence adoption.
Macro-level (policy & institutional)	• Tax incentives, grants, and subsidies. • Regulatory frameworks (e.g. eco-design standards, plastic waste/waste management regulations). • Advocacy and policy alignment to stimulate CE ecosystems. • Macro-level policies shape meso-level networks and micro-level capabilities.

Source: Ahmadov, et al., 2023.

[2] According to Ahmadov (2023), the MLP elaborates the bottom-up and top-down dynamics and the multi-level nature of change, offering a holistic view of complex relationships interactions amongst factors, actors, and mechanisms that influence SMEs' transition to a circular economy.

[3] Resource pooling (sharing) refers to the practice of combining resources and expertise from multiple partners to achieve common goals and maximise collective efficiency. This enables multiple users to access and utilise the same resource/platform, significantly reducing idle time, underutilisation, and unnecessary purchases.

Examples of resource pooling (sharing) amongst SMEs:

1) Several eco-conscious SMEs producing personnel care, such as shampoos, lotions, and cleaning products collaborated to offer a shared refill station model at retail points. Instead of producing single-use plastic packaging for each brand:
   - Standardised bottle designs to allow refill use across brands.
   - Installed shared refill points in stores and supermarkets.
   - Co-logistics for transporting bulk liquids to reduce emissions and costs.

2) In a coastal area, several small-scale food and beverage producers face challenges in managing their plastic packaging waste. None of them had the capacity or budget to set up a proper sorting facility or regular waste pick-up services. To address this, SMEs pooled resources to establish shared efforts:
   - Hired a common service to collect sorted plastic waste from their premises.
   - Negotiated better rates for plastic pellets with recycling, since they could provide a steady and higher volume of clean plastic waste.

Impact of the linear economy models – SMEs

Environmental Consequences

The linear 'take-make-use-dispose' is highly extractive, resource-intensive, and a major contributor to greenhouse gas (GHG) emissions that are driving the climate crisis (Ellen MacArthur Foundation, 2019). It reflects an inefficient system where companies extract raw materials, apply intensive energy and labour into production, only for products to be discarded when it no longer serves its purposes and even in a short period of time. The linear system also relies on extractive materials such as fossil fuels and does not manage land, water, and minerals for long-term. In terms of GHG emissions, the global economic damage of a 1.5°C rise has been estimated at US$54 trillion in 2100, increasing to US$69 trillion with 2°C rise.

Examples:

Climate change and plastic pollution drive extreme weather, resulting in coral bleaching, coastal erosion, and plastic-extensive accumulation on the beaches. This leads to reduced tourist visits and higher maintenance costs in the long term (e.g. frequent cleanups, repairs). Overtime, this can severely damage local economy and eliminate the market for SMEs.

In terms of plastic pollution, the linear economy that relies on extracting virgin materials with inadequate waste management leads to massive plastic leakage into the environment. According to Meijer et al. (2021), an estimated 1.15 to 2.41 million tonnes of plastic enter the ocean each year from rivers globally, with the Philippines contributing approximately 356,000 tonnes annually, making it one of the top contributors. The circular economy, on the other hand, provides a better direction to decouple economic growth and resource consumption by exploring the concept of treating waste as a resource. Instead of treating waste end-of-life products or end of a process output, circular practices create opportunities for these outputs to be injected into the cycle through recovery, reuse, and recycle, redesign, and re-applying practices.

The impact of the linear system also put pressure on other planetary boundaries, such as biodiversity loss. It was estimated that approximately one million species of animals and plants are at risk of extinction, with climate change being one of the key threats. Further, resource extraction and processing account for over 90% of land and water-related environmental impact, including water stress and biodiversity loss, with the agriculture sector as the main driver. The linear economy drives approximately 45% of global GHG emissions through industry, agriculture, and waste. Through CE implementation, it can mitigate GHG emissions from materials like plastics, cement, and food, where sectors often linked to SMEs (Ellen MacArthur Foundation, 2019).

Moreover, the concept of circular economy is linked to the scarcity of resources, such as water, mineral, and metal resources. By 2050, the ASEAN region is projected to require approximately 336-385 cubic kilometres of water annually, a 19-36% increase compared to 2010's water demand (ASEAN, 2025). This growing demand may result in higher input and maintenance costs for SMEs, reducing their competitiveness if unsustainable practices persist.

Economic Consequences

According to the Circularity Gap Report (2025), most materials entering the economy are virgin, only 6.9% of materials re-enter the economy as secondary materials, falling from 7.2% in the previous analysis. This means that over 90% of materials are lost after a single or short-term use, ending up as waste, incineration, landfill, or pollution. This situation results in loss of embedded value (materials, energy, labour), overreliance on raw material resources for production, and higher operating costs due to one-way use in the long run.

Furthermore, during global disruption (e.g. COVID-19 pandemic, Russia-Ukraine conflict) material prices, such as plastic resins, oil, and gas, spiked dramatically due to inflation and supply shortages. This affected SMEs facing input cost shocks but lack buffer capacity or influence over suppliers. SMEs also cannot hedge risks like large corporations and were stuck with higher input bills or longer lead times. Opportunities in the circular world, SMEs can rely on post-consumer recycled plastic or bioplastic, establishing new partnerships for recycled input materials or diversify suppliers into closed-loop systems.

The economic costs of plastic pollution are immense, with estimated annual economic loss approximately ranging between US$6-19 billion for 87 coastal countries that rely on fisheries and tourism industries (Vlool, 2019). These losses stem from both direct and indirect damage to nature, including adverse impacts on fisheries and aquaculture, increased maintenance and cleanup efforts, reduced appeal of tourism destinations, and declining public health quality.

Implication for SMEs:

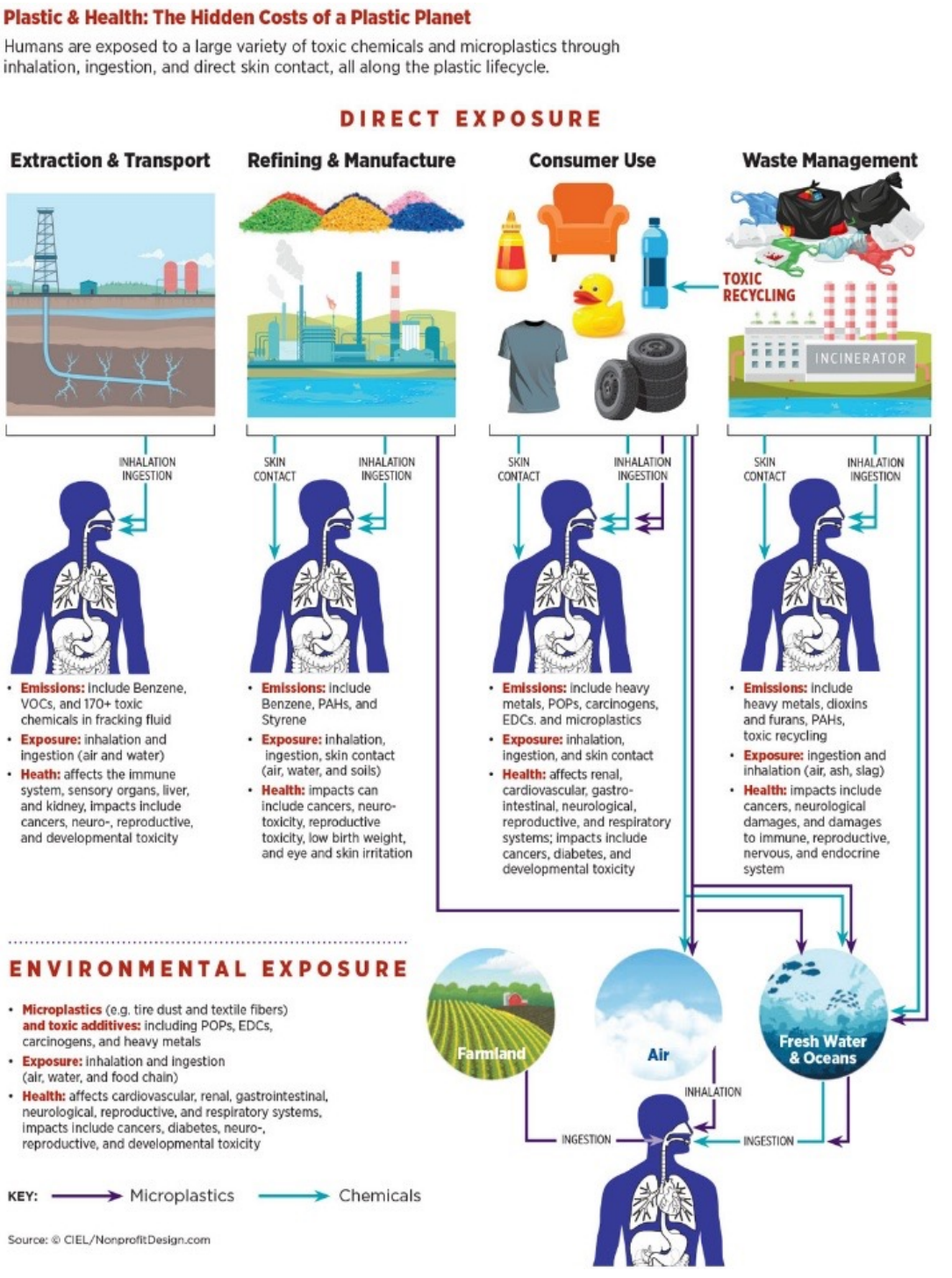
- Profit leakage: SMEs pay full price for materials they use once, especially in packaging-heavy industries such as food delivery, personal care, etc.
- Miss opportunity to capture value from their product end-of-life (e.g. resale, recycling, repair, upcycling[4]).
- Inefficient inventory: Business produce more to meet demand without reuse or take-back loops systems, leading to overstock or wastage

Human & Social Consequences

Plastics and other waste are now found in rivers, oceans, food, drinking water, and even human blood (Leslie et al., 2022). Majority of plastics are derived from fossil fuels, and the extraction process releases a variety of toxic substances into the atmosphere and water. These emissions have been linked to serous human health risks such as respiratory issues, neurological disorders, and cancer. The impact on human health will vary depending on the specific route of exposure such as inhalation (what we breath), ingestion (what we eat and drink), and skin contact (what we encounter topically) (Polprasert et al, 2023).

[4] Upcycling refers to the process of transforming waste materials or old products into new items of greater quality or value. Essentially, it gives a second life, while enhancing their value and utility.

Figure 1.1. Plastic & Health: The hidden costs of a plastic planet



Source: CIEL, 2019.

2. The Benefit of redesigning/ re-applying the circular practices

Circular economy concept emerges as an alternative to linear economic model ('take, make, use, dispose') to address economic, environmental and social barriers (Cagno et al. 2023). The concept revolves around the idea of decoupling[5] economic growth from resource extraction and environmental destruction. In addition, CE has the potential to address pressing global challenges related to sustainability, resource efficiency, and economic growth. For SMEs, the implementation of CE practices is seen as a faster route to reaching sustainable development targets, highlighting its potential balancing social (Zhu, 2022), environmental and economic advantages (Massari and Giannoccaro, 2023).

Why is CE transition for SMEs needed? Justification for Transitioning to Circular Economy Practices

In transitioning towards circular economy, it is important to analyse the current position of the business and establish a strategy for the transition. Moreover, a business needs to collaborate, communicate, and configure their overall operations and organisational structure **to effectively achieve CE**. By adopting collaborative measures and implementing circular practices, companies can facilitate a successful and concrete transition towards circularity, promoting environmental preservation and economic prosperity.

There are two approaches to implement a circular economy (Lieder and Rashid, 2016):

1. **Top-down approach**: Driven through legislation and regulations, businesses to adopt circular economic policies and practices.
2. **Bottom-up approach**: Initiated from the bottom up by companies, who may find a competitive advantage and improved profitability by focusing on sustainable concepts such as environmental impact, economic benefits, and resource scarcity while transitioning towards circular economy.

[5] Decoupling is breaking the link between 'environmental bads' and 'economic goods'. In short, decoupling is reducing the number of resources (e.g.., water consumption, fossil fuels used, etc.) to produce economic growth and delinking economic development and environmental deterioration (Srikanth & Visvanathan, 2023).

Justification for transitioning to Circular Economy

Economic opportunity	Environmental & Social Impact	Policy Alignment

Economic opportunity

In the Philippines, SMEs and other actors lose an estimated 78% of the material value in key plastic resins, approximately US $890 million annually, when recyclable plastics are discarded instead of circulated through the economy. Only 28% of key plastic resins are recycled, revealing substantial untapped economic and environmental potential (World Bank, 2021).

Circular economic practices help SMEs cut costs by maximising resource productivity and minimising waste and material inputs. Resource efficiency can yield significant savings across production and operations as well as contribute to the overall economy of the nation. Some of the economic benefits of adopting circular practices are as follows:

Domestic value-added and multiplier effect: Circular practice like recycling substitutes imported virgin resin with locally available processed secondary material or alternative materials. Recycling also generates higher jobs, wages, and tax revenues (US EPA 2020) per unit of material than linear disposal, as it includes more processes (collection, sorting, reprocessing, and manufacturing) than disposing of it in a landfill or for energy recovery. Thus, even when the unit cost of recycled polymer exceeds the virgin resin, net domestic value-added and its effect (local multiplier) can have a greater impact from a macroeconomic perspective.

New Business Opportunities and Innovation: By embracing circular business models such as repair services, refill systems, or upcycled products, SMEs can unlock new sources of income. Circular practices (optimising material usage, circulating resources) also lead to knowledge spillovers in areas like automation, material science, and design-for-recycling. Businesses improve their processes over time with experience, while better reverse logistics (systems for collection, recycling, reusing) are developed. All these system-wide changes result in overall productivity gains in the long run.

Future-proofing businesses: OECD (2022) reports that currently virgin plastics are underpriced as they fail to fully account for the social costs like GHG emissions, air/water pollution, marine leakage. These external costs, when priced through EPR fees or landfill/incineration taxes, could result in increased prices for virgin plastic. Accounting for this external cost could also make material circulation through recycling more financially feasible and socially profitable. Hence, adopting circular practices now could lead to future-proofing businesses. Switching from virgin plastic to recycled or renewable materials also reduces SMEs/MSMEs' exposure to volatile global commodity prices.

Environmental & Social Impact

Lower Greenhouse Gas Emissions & Energy Use: Circular practices like recycling and product life extension can substantially reduce the carbon footprint of production. For example, recycling PET saves up to 54% of primary energy compared to virgin production (Shen, Worrel, and van der Voet, 2018). Globally, widespread adoption of circular economy principles could reduce emissions by up to 39% by 2050 (Circle Economy, 2021).

Waste Reduction & Pollution Control: Circular practices prevent plastic and other materials from becoming pollutants. It is estimated that by adopting circular economic strategies, 80% of annual plastic leakage into the ocean can be reduced by 2040 (The Pew Charitable Trusts & SYSTEMIQ, 2020). Microplastic is also a great concern today globally, and further leakage of plastic into water bodies could further worsen the existing marine ecosystem. Furthermore, plastics consist of many additives/ chemicals that add functionality to the plastics. Some of the chemicals, like phthalates and bisphenol A (BPA), can also leach into the environment when improperly disposed of, causing impact to human health (Thompson et al., 2009).

Job Creation & Green Employment: Circular economy activities such as reuse, repair, and remanufacture result in net job gain. ILO (2018) estimates that a global shift to a green economy could create up to 24 million new jobs by 2030. Better management of waste implies a cleaner environment, and for a tourist destination, it could make a huge difference. UNEP (2021) reports that plastic pollution costs the tourism business US$13 billion globally every year, and cleaner beaches reports higher tourist arrivals. Similarly, coastal destinations with visible plastic pollution led to lower tourist satisfaction and revenue (Krelling 2017, McIlgorm & Xie 2023).

Improved Branding & Community Trust: Consumers increasingly favour businesses that demonstrate responsible environmental stewardship. Nielsen (2018) reports that 81% of global respondents to their survey felt that companies should put efforts into improving the environment. Accenture (2025) conducted a survey with 25,000 respondents in 22 different countries and found that 51% were more willing to consume eco-friendly products, 70% thought that they would consider the recyclability of a product in making purchasing decisions, and 65% preferred brands that were eco-friendly (provided green credentials and invested in sustainability).

Policy Alignment

SMEs embracing circular models will be better positioned to comply with evolving policies, while also benefiting from incentives and avoiding penalties. Regulatory trends are moving toward stricter waste management and producer responsibility worldwide. Early adoption future-proofs SMEs against sudden policy shifts. Anticipating and meeting regulations now avoid higher compliance costs in the future. Additionally, many large corporations already require sustainable practices in their supply chains, this means non-compliance could mean being excluded from certain market access.

- The Philippines' Ecological Solid Waste Management (RA 9003) mandates better waste handling and segregation at source. SMEs that adopt circular practices such as reuse, repair, and recycling are naturally aligned with these requirements, reducing compliance risks.
- EPR (RA 11898) places responsibility on businesses for the collection and recycling of plastic waste. SMEs that integrate take-back, refill, or recycling systems early can benefit from incentives, gain competitive advantage, and avoid fines or sanctions.

Case Studies: Highlighting the benefits of re-design and applying circular economy

Mirra Chair by Herman Miller

Herman Miller's design for the environment programme, leveraging the design-for-disassembly. The new design is constructed of **42% recycled materials**[6] , and **96% recyclables**[7].

The new product consists of three key re-thinking design areas:
- *Material Chemistry and Safety Inputs:* Considering chemicals in the materials, are these materials safest available?
- *Disassembly:* Can we take products apart at the end of the lifecycle? Is it easy to repair or recycle?
- *Recyclability:* Do these materials contain recycled content? Can the materials ultimately be recycled?

EPS Alternatives in aquaculture, ports, and ships

Floats made of EPS are widely used in aquaculture. It is also used as fenders of ships and ports. According to NOWPAP MERRC (2015), the annual production of floats in Japan was 500 tons. Environmental risks emerge gradually as plastics are decomposed and become microplastics.

The Fisheries Cooperative Association of Tarumizu city of Kagoshima prefecture replaced EPS floats with High Durability Floats. It took 10 years for the organisation to replace all EPS floats with alternative since 1996

Table 1.2. Results of EPS Floats Alternatives in Kagoshima, Japan

	Conventional EPS Floats	High Durability Floats Combination of polystyrene beads and the hard plastic (5mm thickness PE)
Durability	Easily fragmented	No fragmentation
Period of Services	3 years	10 years
Workability	Impossible to scrape attached organism	Easy to scrape to remove the attached organisms.
Seawater Penetration	Yes.	No.
Recycling	Challenging.	Yes.

Source: Kojima, 2025.

[6] Recycled materials mean materials that have already gone through the recycling process and reshaped into new products. This represents the value of recycling-what the economy can utilise instead of relying on virgin materials.

[7] Recyclables materials are the materials that can potentially be recycled if properly managed such as collection, sorting, and recycling. Unfortunately, many recyclables still end up in landfills or oceans due to poor collection, contamination, or lack of infrastructure.

Microplast Costa Rica

CEGESTI, UNIDO NCPC, and Delft University conducted a redesign project as follows:

Redesign:
- Material efficiency: 0.6 mm to 0.3 mm thickness, using HDPE
- Distribution efficiency (new dimension)
- Ergonomics (minimising momentum users)

Results:
- Material use reduction **(45-50%)** plastics
- Distribution efficiency of **25%**
- Environmental impact reduction of **43%**
- Better ergonomics
- Less processing during production
- **108 tons per year** reduction of plastics

References

Ahmadov, T., S. Durst, W. Gerstlberger, and W. Kraut (2023), 'SMEs on the way to a circular economy: insights from a multi-perspective review', *Management Review Quarterly* (2025). https://doi.org/10.1007/s11301-023-00380-2

ASEAN (2025), Study on the MSME Participation in Circular Economy. https://asean.org/book/study-on-msme-participation-in-the-circular-economy/

ASEAN (n.d.), *Development of Micro, Small, and Medium Enterprises in ASEAN (MSME).* https://asean.org/our-communities/economic-community/resilient-and-inclusive-asean/development-of-micro-small-and-medium-enterprises-in-asean-msme

Cagno, E., M. Negri, A. Neri, and M. Giambone (2023), 'One framework to rule them all: an integrated, multilevel and scalable performance measurement framework of sustainability, circular economy and industrial symbiosis', *Sustainable Production and Consumption*, 35, pp.55–71. https://doi.org/10.1016/j.spc.2022.10.016

Center for International Environmental Law (CIEL) (2019), Plastic & Health: The Hidden Costs of a Plastic Planet. https://www.ciel.org/wp-content/uploads/2019/02/Plastic-and-Health-The-Hidden-Costs-of-a-Plastic-Planet-February-2019.pdf

Circle Economy (2021), The Circularity Gap Report 2021. https://www.circle-economy.com/knowledge-base/circularity-gap-reporting-2021

Circle Economy (2025), The Circularity Gap Report. https://www.circularity-gap.world

Circularity Gap Report (2021), https://www.circle-economy.com/knowledge-base/circularity-gap-reporting-2021

Ellen MacArthur Foundation. (2019). C*ompleting the picture: how the circular economy tackles climate change*. https://www.ellenmacarthurfoundation.org/completing-the-picture

Ellen MacArthur Foundation (n.d.) *What is a circular economy?* https://ellenmacarthurfoundation.org/topics/circular-economy-introduction/overview

International Labour Organization (2018), World employment and social outlook: Greening with jobs. https://www.ilo.org/publications/world-employment-and-social-outlook-2018-greening-jobs

Kirchherr J., D. Reike, and M. Hekkert (2017), 'Conceptualizing the circular economy: An analysis of 114 definitions', *Resources, Conservation and Recycling*, 127, pp.221–32. https://doi.org/10.1016/j.resconrec.2017.09.005

Kojima, M. (2025), Shift from the conventional EPS floats to high durability floats [Unpublished]. ERIA Regional Knowledge Centre for Marine Plastic Debris

Krelling, A.P., A.T. Williams, and A. Turra (2017), 'Differences in perception and reaction of tourist groups to beach marine debris that can influence a loss of tourism revenue in coastal areas', *Marine Policy*, 85, pp.87–99. https://doi.org/10.1016/j.marpol.2017.08.021

Leslie, H.A., M.J.M.van Velzen, Brandsma, S.H., A.D. Vethaak, J.J. Garcia-Vallejo and M.H. Lamoree (2022), 'Discovery and quantification of plastic particle pollution in human blood', *Environment International*, 163, 107199. https://doi.org/10.1016/j.envint.2022.107199

Lessidrenska T. (2019), SMEs and SDGs: Challenges and Opportunities. https://oecd-development-matters.org/2019/04/23/smes-and-sdgs-challenges-and-opportunities/

Lieder, M. and A. Rashid (2016), 'Towards circular economy implementation: a comprehensive review in context of manufacturing industry', *Journal of Cleaner Production*, 155, pp.36–51. https://doi.org/10.1016/j.jclepro.2015.12.042

Massari, G.F. and I. Giannoccaro (2023), 'Adopting GRI standards for the circular economy strategies disclosure: the case of Italy', *Sustainable Accounting, Management and Policy Journal*, 14(4), pp.660–98. https://doi.org/10.1108/SAMPJ-07-2021-0284

McIlgorm, A. and J. Xie (2023), The Costs of Environmental Degradation from Plastic Pollution in Selected Coastal Areas in the United Republic of Tanzania.

Meijer, L. J. J., T. van Emmerik, R. van der Ent, C. Schmidt, and L. Lebreton (2021), 'More than 1000 rivers account for 80% of global riverine plastic emissions into the ocean', *Science Advances*, 7(18). https://doi.org/10.1126/sciadv.aaz5803

Nielsen (2018), Global Consumers Seek Companies that Care about Environmental Issues. https://nielseniq.com/global/en/insights/analysis/2018/global-consumers-seek-companies-that-care-about-environmental-issues/

OECD (2022), Global Plastics Outlook: Policy Scenarios to 2060. OECD Publishing. https://doi.org/10.1787/aa1edf33-en

Polprasert, C., T. Koottatep, T. Pussayanavin, K. Jinda, and S. Kamngam (2023), 'Plastic litter and public health', In Kootattep et al. (2023), *Marine Plastics Abatement: Challenges, Implications, Assessments and Circularity* (Vol 1., pp.185–221). IWA Publishing.

Shen, L., J. Worrell, J., and E. van der Voet (2018), 'Exploring comparative energy and environmental benefits of virgin, recycled, and bio-derived PET bottles' *ACS Sustainable Chemistry & Engineering*, 6(8), pp.10016–26. https://doi.org/10.1021/acssuschemeng.8b00750

Srikanth, P.K. and V. Chettiyappan (2023), 'Circular economy for plastic waste management', In Kootattep et al. (2023), *Marine Plastics Abatement: Challenges, Implications, Assessments and Circularity* (Vol 1., pp.185–221). IWA Publishing.

The Pew Charitable Trusts & SYSTEMIQ (2020), Breaking the Plastic Wave: A Comprehensive Assessment of Pathways towards Stopping Ocean Plastic Pollution. https://www.pew.org/-/media/assets/2020/07/breakingtheplasticwave_report.pdf

Thompson, R.C., C.J. Moore, F.S. Vom Saal, and S.H. Swan (2009), 'Plastics, the environment and human health: current consensus and future trends', Philosophical transactions of the royal society B: biological sciences, 364(1526), pp.2153–66. https://pmc.ncbi.nlm.nih.gov/articles/PMC2873021/

United Nations Development Programme (2019), *Plastics and Circular Economy: Community Solutions.*

United Nations Environment Programme (2021), From Pollution to Solution: A Global Assessment of Marine Litter and Plastic Pollution. https://www.unep.org/resources/pollution-solution-global-assessment-marine-litter-and-plastic-pollution

U.S. Environmental Protection Agency (US EPA) (2020), Recycling Economic Information (REI) Report. https://www.epa.gov/sites/default/files/2020-11/documents/rei_report_508_compliant.pdf

Vlool, V., A. Gupta, L. Petten, and J. Schalekamp (2019), *The Price Tag of Plastic Pollution: An Economic Assessment of River Plastic*. Deloitte: London.

World Bank (2021), Market Study for Philippines: Plastics Circularity Opportunities and Barriers. https://openknowledge.worldbank.org/entities/publication/61e2e030-9dc2-5013-a8ff-7565919e17ee

Zhu, B., M. Nguyen, N.S. Siri, and A. Malik (2022), 'Towards a transformative model of circular economy for SMEs', *Journal of Business Research*, 144, pp.545–55. https://doi.org/10.1016/j.jbusres.2022.01.093

Chapter 2

Training for Circular Business Tools

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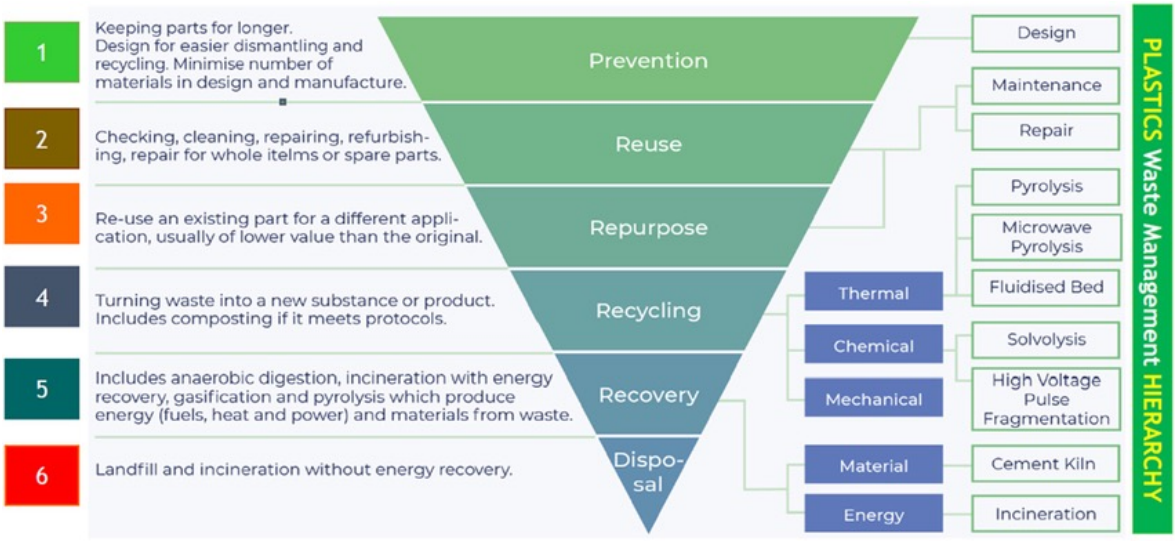
1. Circular Business Training: Plastic Waste Reduction for SMEs

1.1 Introduction to Plastic Waste Reduction

Plastic is a versatile, affordable, and easily available material that can be used in many ways and for many purposes. However, as much as it is useful, it is equally persistent in the environment and could cause short-term and long-term damage to the environment. Plastic pollution is a critical issue in ASEAN. The fraction of mismanaged plastic (plastics that go unaccounted often ending up in open environments or water sources) ranges from 29% to 72% of the plastic waste produced in ASEAN (OECD, 2025).

Figure 2.1. Plastic Waste Management Hierarchy



Source: Xue, 2023.

One of the most advocated solutions to this problem is **to prevent or reduce plastic consumption** while improving the collection and treatment of end-of-life plastic waste. In a business-as-usual scenario, world plastic production is projected to triple the 2019 production level of 460 million tonnes by 2050 (Geyer, Jambeck, & Law, 2017), which implies the solutions and effort to tackle it need more than conventional end-of-life treatment and need to target technology, solutions, processes, and concepts that reduce the usage of plastics.

1.2 SMEs potential role in the Plastic Crisis

SMEs can play a crucial role in reducing plastic waste. Many SMEs operate in retail, food service, and manufacturing sectors and are highly dependent on plastic packaging and single-use items, which could often be unnecessary or problematic. Some of them could be eliminated, while others could be replaced with alternatives that are more recyclable and/or cause less damage to the environment.

For plastic waste reduction, SMEs can adopt a **dual framework**:

Pull-Down Strategy – Reduce consumption	**Pull-Up Strategy – Strengthen systems**
• Eliminate unnecessary and problematic plastics • Redesign products and packaging for reuse or recyclability • Switch to locally available, renewable alternatives	• Partner with collectors, recyclers, and the informal sector • Support segregation and collection efforts • Engage in extended producer responsibility (EPR) schemes[1]

The **circular economy** offers pathways to reduce the consumption of resources and suggests the use of more environmentally friendly materials. It further explores designing products, processes, and supply chains to keep the materials in use for as long as possible, optimising their value and regenerating the ecosystem. This module will explore how to reduce plastic consumption as a pull-down strategy and shall focus on plastic packaging.

1.3 Plastic Packaging/ Single Use Plastics (SUPs)

Plastic packaging, which is often single use, is of significant concern globally. SUPs account for almost half of the global plastic waste (Chen et al., 2021). These SUPs are also the top contributors to marine plastic leakage (Ocean Conservancy, 2023), which implies that focusing on reducing SUPs immediately, while planning for strengthening the system, could be a potential solution. Moreover, the Philippines EPR Act of 2022 also covers single-use items like sachets, labels, laminates, flexible plastics, rigid plastics, plastic bags, and polystyrene.

It is also important to understand that while zero plastic usage would be an ideal solution, current technological limitation still demands the usage of plastics. Also, not all plastics are equal. Some are essential for health, safety, or functionality, while others might provide little to no value and could be categorised into unnecessary, problematic, and both (unnecessary and problematic) SUPs. This categorisation helps SMEs prioritise their action or structure their approach to get the most out of their effort.

Unnecessary Plastic: These SUPs do not add any useful function and are convenience-driven rather than essential. For example, excessive packaging (wrapping bananas in plastic), decorative plastic (balloons), secondary wrapping, straws automatically served with drinks, and others. SMEs can reduce these SUPs without affecting product or consumer experience.

[1] EPR Act of 2022 (Republic Act 11898) requires obligated enterprises to recover 20% of plastic packaging in 2023, rising to 80% by 2028 (DENR, 2024). SMEs may not always be **legally obligated**, but **aligning** with **the supply chain** is critical to future-proofing the business. More on EPR will be discussed in Module 2.3.

Problematic Plastics: These plastics serve a function but can be replaced with reuse, refill, or alternative materials, maintaining the product's utility. These are substitutable or replaceable through technology or process change. For instance, 1) plastic shopping bags can be replaced with reusable bags, 2) Styrofoam food containers can be replaced with paper-based or reusable containers, and 3) sachets for shampoo can be replaced with refill stations or bulk packaging. SMEs can reduce these SUPs with a small shift in consumer behaviour (Behaviour Change) or supply chain.

Unnecessary and Problematic Plastic: These are both non-essential and easily replaceable. These are often the priority for bans and phase-outs in local, national, or international directives. For example, plastic straw (non-essential and easily replaceable), single-use cutlery (can be replaced with reusable sets), and others. SME should target to eliminate these immediately.

SME should also align their priorities and strategies in accordance with the local and national regulations, such as Republic Act 11898. Packaging also serves as a barrier in the trade; thus, SMEs should also be aligned with international standards and regulations.

1.4 Plastic Hotspots in SME Operations

Table 2.1. Typical Plastic Hotspots for SMEs

Hotspots	Description	Example	E.g., Possible Actions*
Packaging Waste	These are used to wrap or contain the products for sale and are one of the most visible sources of plastic waste.	Sachets for shampoo and condiments, multilayer snack wrappers, PET bottles, plastic shopping bags.	Redesign packaging, refill models, shift to biodegradable alternatives
Single-Use Service Items	These are provided to customers during food service or retail transactions.	Straws, stirrers, cutlery, cups, lids, Styrofoam takeouts, etc.	Remove SUPs as the default option. Switch to reusable service ware
Production and Operational Scraps	These are generated during business operations or production. It should be noted that SMEs often lack protocols to tackle this waste and ends up as waste.	Offcuts, misprinted labels/ wrappers, excess shrink wrap, etc.	Conduct regular waste audits, reuse scraps, and partner with recyclers
Logistics and Distribution Waste	These are plastics used to protect goods during storage or transport. As e-commerce is booming, these plastics are in high demand.	Bubble wrap, stretch film, bags, etc.	Shift to reusable crates or eco-wrap, optimise shipment to reduce packaging, and encourage suppliers to use eco-friendly packaging
Customer-End Disposal (Unrecoverable Plastics)	These are the plastics that end up with customers and have the highest potential for leakage.	Beverage bottles, snack packages, sachets, etc.	Educate customers on waste sorting, join Producer Responsibility Organisations (PROs), and participate in take-back/recycling schemes.

*The actions SME can take are not limited to this.

Source: Authors.

Having lifecycle thinking is important to identify plastics within the operations. By understanding and identifying plastic hotspots across their operations, SMEs can move from awareness to action and act more effectively. It is advisable to prioritise the actions rather than trying to do everything at once. Starting with quick wins, reducing single-use service items, and improving choice, and later scaling up efforts to make more systemic changes in logistics, production, and consumer-end recovery could be more achievable. SMEs could also target reducing unnecessary and problematic plastic in these plastic waste hotspots before switching their efforts to other plastic types. Addressing these hotspots could also create opportunities for cost savings, compliance, and stronger customer trust; hence, these reduction efforts should not be considered as a cost but rather an opportunity.

1.5 Best Practices and Localised Solutions

Reducing plastic waste does not always demand large investments and advanced technologies, and sometimes adopting or taking inspiration from proven practices (best practices) might be more efficient. It is advisable to give preference to the localised solutions to take advantage of the existing supply chain. In the Philippines, SMEs have already experimented with reduction strategies, which demonstrates how circular economy principles can be applied. These best practices illustrate that circularity is not limited to global brands and SMEs can also lead the way by redesigning packaging, rethinking delivery systems, and partnering with local recyclers or communities.

1. Eliminate (Most Preferred)

SMEs should first prioritise the elimination of SUPs. Some of the proven best practices include:

- Stop automatically give single use plastic items such as straws, cutlery, or plastic bags unless requested or charging extra for it.
- Removing unnecessary layers of packaging from the products.
- In the food service sector, motivating customers to bring their own cup or container has also been adopted in some of the restaurants and cafés in Metro Manila.
- Refill Stations: Refill stations are one of the effective ways to cut down SUPs and have also been adopted in the Philippines. Some sari-sari stores and supermarkets have adopted refill stations where customers can bring their own containers to purchase products like shampoo, dishwashing liquids, etc. (Livelo, 2020; Gozum, 2024), This approach offers affordable, flexible purchase options while building strong customer relationships, and can reduce reliance on the problematic plastic, such as sachets.

2. Redesign (Reconsider Changing Process)

If elimination is impossible, businesses should focus on redesigning the packaging. Exploring the existing local solution is suggested. Some of the best practices in redesigning packaging can include:

- Switching to standardised, stackable containers to reduce secondary plastic. For example, bakeries use standardised and stackable trays to transport products instead of wrapping each one of them. Standardised crates can also be used in the food sector to replace Styrofoam boxes and plastic liners.
- For the food sector, plastic can be reduced by proportionating the portion size with the packaging size.

3. Redesign (Reconsider using reusable and biodegradable products)

SMEs can further consider using other packaging options which are reusable or biodegradable. Some of the best practices are:

- Usage of a cloth or a paper bag.

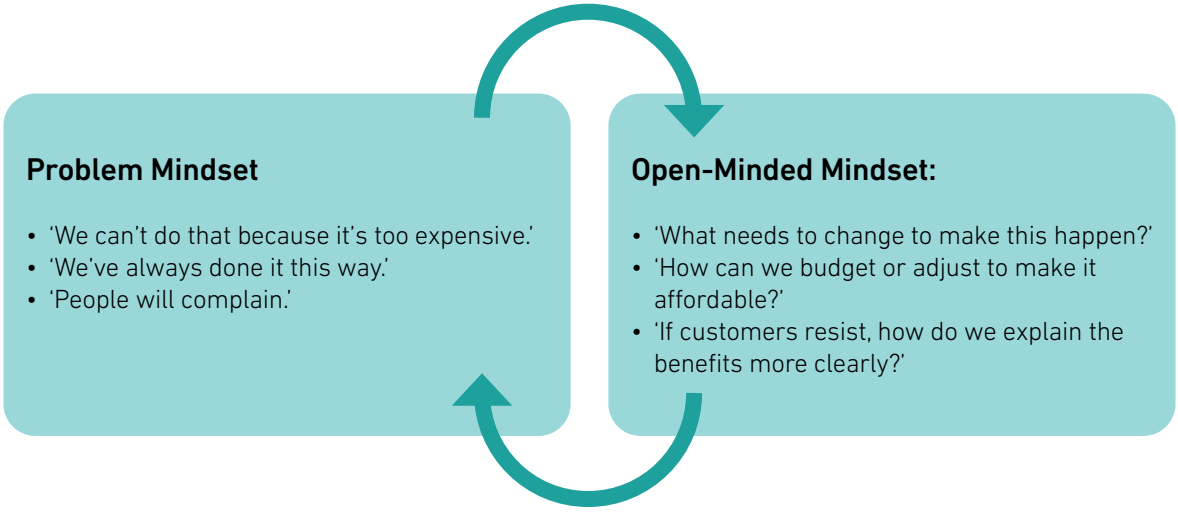
- Compostable trays and cups. In the Philippines, EcoNest Philippines has developed cassava-based biodegradable bags that break down naturally (EcoNest Philippines, n.d.). Similarly, there are companies like AnBio and AnEco that develop decomposable plastics (An Phat Holdings, n.d.).
- Usage of alternative and innovative materials like Bamboo cutlery.

4. Redesign (Usage of highly recyclable materials or recyclable materials)
Businesses should also emphasise the usage of highly recyclable and recyclable materials rather than using any plastic type. Some of the best practices can include:

- Usage of mono-material packaging (all PE or all PP) instead of multilayer sachets to simplify end-of-life treatment, as they do not have any real value in the recycling market.
- Designing products with packaging that can be easily sorted or dismantled/disassembled.
- Usage of highly recyclable plastics like PET bottles, HDPE bottles, and PP containers, as these have an established recycling market and supply chain. The Styrofoam package can be switched to PET packaging. Also, clear PET bottles have a higher value in the recycling market than the coloured or opaque ones.

5. Building an Open Mindset for Circular Practices
Common barriers to reducing plastics in SME operations might not be a lack of knowledge or awareness, but a lack of confidence in making changes. Business owners and managers often default to a 'problem mindset,' where more weight is given to avoiding risk. However, transitioning to circular practices requires an 'open-minded mindset.' Business owners and managers should be willing to test new approaches and better communicate with customers. As regulations are getting more stringent, having an open mindset can help businesses catch up quickly with them.

Figure 2.2. Transitioning to an Open-minded Mindset in Circular Practices



Source: One Planet Network, 2024.

Shifting to an open-minded mindset allows SMEs to see plastic reduction not as a burden, but as an opportunity to innovate, comply with regulations, and build customer trust.

Exercise 1: Prioritising Plastic Action

Objective: Identification of plastic hotspots and creating a realistic short-term action plan for reducing them.
Time: 30–45 minutes
Group Size: 4–6 participants per group (adjust, if necessary)

Step 1: Identify Plastic Usage (5 min)
First, each group picks a familiar business scenario to analyse (e.g. food and beverages, SMEs, a retail store, a craft goods producer, etc.). Draw a simple flow diagram of operation and identify all the plastic usage in your business. List down on the different plastic items, usage, and quantity in your business operations. Please use the following table template:

Plastic Item	Where it is used	Quantity per month (Estimate)
...		
...		
...		
...		
...		

Tips to Identify Plastic Usage:
- *What plastics do you use in packaging?*
- *Do you provide customers with single-use items (bags, straws, containers)?*
- *What plastics come in from suppliers or logistics?*
- *Where does plastic waste appear in your production or daily operations?*

Step 2: Identify waste 'Pain Points' or Prioritisation (5 min)
Please categorise the plastic into priorities. Prioritise the plastic packaging or usage that you want to start reducing immediately into 1st priority, 2nd and 3rd.

Tips to Prioritise Plastic Packaging:
- *Consider local regulations and the direction of regulations to be proactive*
- *Which ones are unnecessary and problematic plastic?*
- *You might as well consider the plastic volume to gain a greater impact on your plastic footprint.*
- *Some plastics are hard to replace. Maybe you want to have a long-term plan for it.*

Step 3: Make Action Plan (15 min)
Each group chooses **2–3 priority plastics** to be addressed and plan the following:
- **Action:** What will we do? How will we reduce the plastics?
- **Timeline:** When will we do it? (e.g. Q1 pilot, Q2 scale-up, ...)
- **Responsibility:** Who will lead this? What expertise is needed?
- **Support Needed:** E.g. Supplier, LGU, recyclers, customer awareness?

Tips for making an Action Plan:
- *Look to utilise locally available solutions*
- *Take inspiration from nationally and globally proven practices*
- *Work with an open mindset*
- *Do some market research to gather some confidence*

Step 4: Monitoring & Evaluation Plan (5 min)
Each group will discuss how they will track progress and develop a Monitoring and Evaluation Plan.

Tip for developing a Monitoring and Evaluation plan:
- *Align your monitoring and evaluation plan to support national or local regulations*
- *If you are considering getting third-party accreditation for some labels/eco-labels, do consider aligning it with that also*
- *Suggested Indicator (but not limited to): Amount of plastics eliminated per month/year, Cost savings, Customer feedback, Volume of plastics*

2. Circular Business Training: Eco-Design Product and Alternative Packaging

2.1. Introduction to Eco-Design in Packaging

Eco-design refers to sustainable and environmentally conscious design. Thus, in terms of packaging development, eco-design integrates environmental consciousness. Conventionally, the packaging design was more focused on product protection, convenience, and branding, while eco-design in addition to the focus of conventional packaging also focuses on reducing the environmental impacts of the packaging across the life cycle. Eco-design thus prioritises achieving the same goal with fewer resources, environmentally friendly resources, while minimising waste across the supply chain or product/packaging lifecycle. It could include eliminating unnecessary plastic, reducing the usage of toxic or harmful packaging, using recyclable/reusable materials, reducing materials and energy consumption without compromising functionality, and others.

SMEs can initiate eco-design by asking three main questions which are as follows:

1. **Do we need this material at all?** (Elimination of unnecessary packaging)
2. **Can we choose more eco-friendly materials?** (Shift to recyclable, compostable/biodegradable, or reusable materials)
3. **Can we design it for circulation?** (Make it refillable, easy to recycle, or part of a take-back system)

SMEs can yield multiple advantages by adopting eco-design. It can reduce operational costs through material optimisation and waste minimisation, foster innovation for market differentiation, and enhance brand appeal amongst eco-conscious consumers. Nielsen, (2022) researched to understand how sustainability played a role in consumer spending and found that 78% of consumers felt a sustainable lifestyle is important, 30% agreed that they were more likely to purchase products with sustainability credibility, and 61% agreed that environmental issues were adversely impacting them. Thus, adopting eco-design can equally gather support and confidence from consumers if communicated properly.

Eco-design also supports regulatory compliance and aligns with global sustainability trends, making it resilient to international standards or trade barriers. Hence, SMEs can also enhance their competitiveness and be a part of a stronger and resilient supply chain through eco-design.

Bad Design vs. Eco-Design in Packaging

Different levels of environmental impact can be observed for different packaging types and designs. Packaging designed with the least consideration can create massive problems with end-of-life treatment. Examples to understand the difference between bad design and eco-design are as follows:

Multi-material packaging vs. mono-material packaging:

Conventionally, packaging is designed with multi-materials like plastic, paper, metal, and glass. Although it gives excellent barrier protection, it is also hard to recycle and often ends up in open environments, making it problematic packaging. However, mono-material (made of all polyethylene (PE) or all polypropylene (PP) is globally trending as it is more recyclable. SMEs, however, should understand the required level of barrier protection and durability and aim to find mono-material packaging that can provide the needed functionality.

Styrofoam trays vs. compostable trays:

Styrofoam (expanded polystyrene, or EPS) is low-cost and lightweight but also brittle and breaks into microplastics more easily. Styrofoam is banned in many Philippines LGUs since it is hard or financially unfeasible to recycle. Apart from environmental impact, Styrofoam can also leach styrene when heated, causing health risks to consumers. Compostable trays (e.g. made from bagasse, bamboo, or coated paper) provide the same function but decompose naturally (non-toxic).

Coloured PET vs. clear PET:

Dark-coloured or opaque bottles may look attractive but have very low recycling value. Clear PET bottles, on the other hand, are in high demand by recyclers and are more likely to be collected and recycled. Hence, unless the product or food is sensitive to UV light, causing degradation in quality, it is a bad design to use coloured PET.

Over-packaged produce vs. minimal packaging:

Fruits like bananas, oranges, and coconuts already have natural protection, and wrapping them in plastic adds no real value. Eco-design implies utilising the least amount of material necessary or eliminating it. SMEs using packaging to increase the shelf life or to avoid damage to food products are recommended to use only what's necessary or reconsider processes that lower the risk of damage and elongate shelf life.

Bubble wrap vs. reusable crates:

Bubble wrap is single-use plastic packaging used for cushioning during storage/shipping and is often discarded after one trip/usage. Reusable crates also function to avoid damage to the products, as they are designed to be stackable. It can also be used multiple times. SMEs are encouraged to adopt the reusable crates where possible.

2.2. Principles of Eco-Design

Eco-design principle provides a structural framework for businesses to create or choose packaging that provides a balance between functionality, cost, and sustainability. SMEs can use these principles to make their product environmentally sound without deteriorating their functionality.

Eliminate Unnecessary Packaging:
Each layer of the packaging should be questioned if it is needed. If the packaging only serves for aesthetic purposes, it should be eliminated. It will result in cost and waste savings.

Simplify Materials (Mono-Materials):
Multi-material packaging is hard to recycle. Thus, mono-material packaging (all PE or all PE) could improve recyclability.

Design for Reuse and Refill:
Creating packaging for multiple cycles or for circulation, through deposit-return systems, refill stations, bring your own cup, etc., could reduce packaging waste.

Design for Recycling:
If the former is not possible, packaging should be designed to ease the process of collection and recycling locally. It might include using materials as per the recyclers' recycling capacity and market. Using high-value plastic types like PET, HDPE, and PP ensures the packaging is circulated back to the system if collected.

Lightweight Without Compromising Durability:
Packaging should focus on minimising the material weight without losing its functionality and maintaining its intended durability.

Avoid Hazardous Additives:
Additives are added to enhance the properties of plastic. However, it could be hazardous (UNEP & BRS Secretariat 2023) and could also complicate recycling. It should be avoided unless needed. Some additives – carbon black pigments, opaque and metallic pigments, and others – complicate recycling thus are often discarded from recycling.

Think Lifecycle:
Businesses should assess the impact of packaging throughout their lifecycle.

2.3. Alternative Packaging Options

Table 2.2. Common Alternatives to Packaging

Category	Examples	Pros	Cons / Challenges	Philippine Relevance
Fiber-Based Packaging	Paper bags, corrugated cardboard, moulded pulp (egg cartons, trays), paper-based bubble wrap	Renewable, recyclable, widely accepted by recyclers, biodegradable	Weak in humid climates; may need coatings that reduce recyclability	Widely available; common in food service and logistics (e.g. groceries, egg trays)
Biodegradable & Compostable Packaging	PLA bioplastics, bagasse containers, mushroom packaging	Plant-based, perceived as eco-friendly, grease- & waterproof (bagasse)	Needs industrial composting; limited local infrastructure*	Bagasse trays common in eco-friendly restaurants; small pilot use of compostables
Plant-Based & Regenerated Materials	Seaweed sachets (Notpla), cellulose film, hemp/straw insulation	Innovative, biodegradable, niche branding value	Early stage, limited supply, higher cost	Limited availability
Recycled Content Packaging	rPET bottles, rHDPE containers, recycled PP trays	Closes loop, stimulates recycling markets, supports EPR compliance	Quality/safety certification required	Coca-Cola launched 100% rPET bottles; junkshops accept PET, HDPE, PP
Reusable Packaging	Cloth/jute *(bayong*[2]*)*, glass jars, stainless steel bottles, fabric bags	Durable, long-term cost savings, aligns with cultural reuse practices	Higher upfront cost; needs consumer behaviour change	BYO cup/bottle is gaining popularity in coffee chains
Refill & Bulk Systems	Refill stations for soaps, condiments, personal care	Reduces sachets, customer loyalty, less packaging overall	Hygiene & trust concerns; requires system design	Some Sari-Sari stores have refill stations
Glass & Metal Packaging	Glass bottles/jars, aluminium cans, steel tins	Infinitely recyclable, strong barrier, reusable	Heavy for logistics, fragile (glass), energy-intensive production	Soft drink glass bottles reused; aluminium cans widely recycled

*Local composting/Industrial composting can be built to address this challenge.

[1] Econtainer Philippine (2021)

[2] The Coca-cola Company (2023)

[3] World Bank (2021)

[4] Philippines Coffee and Barista Institute (2025)

[5] Greenpeace Philippines (2023)

[6] Romallosa, Penatrante, and Ravena (2024)

Source: Author's synthesis, 2025.

[2] Bayong is a Philippine bag made of woven leaves or other materials. It is used for shopping and has a long cultural and environmental history.

Table 2.3. Practical Tips for SMEs for using Alternative Packaging

Alternative Packaging Option	Practical Tips for SMEs
Fiber-Based (paper bags, cardboard boxes, moulded pulp, corrugated, paper bubble wrap)	• Use for dry products (bread, snacks, clothing, retail items) or as secondary packaging (shipping boxes, inserts). • Avoid using it where moisture is a risk or a coating needs to be added. • If using coated paper, choose water based or compostable coating, and it should be recyclable. • Source paper from FSC-certified suppliers or recycled paper manufacturers. • Promote customers to ensure that the packaging is recyclable.
Biodegradable & Compostable (PLA bioplastics, bagasse trays, mushroom packaging)	• Best suited for food service, where the packaging gets contaminated with food residue. • Confirm certification and distinguish the composting environment (home compostable vs industrial compostable[5]). • Provide a proper label in the packaging. • Communicate disposal instructions clearly to customers. • Partner with a composting plant to create a system for sorting, collecting, and composting.
Plant-Based & Regenerated (seaweed films, cellulose films, hemp/straw insulation)	• Use seaweed or cellulose films for premium or niche markets where brands need to maintain their eco-conscious brand value. • Use where consumers are willing to absorb the packaging cost. • Consider partnering with companies working on the development of packaging to tailor it to your needs. • Pilot it and scale up to ensure that consumers are willing to pay extra for the aesthetic value. Products like Hemp and straw insulation provide natural aesthetics and add value to the product. • Communicate with consumers about the environmental benefits.
Recycled Content Packaging (rPET bottles, rHDPE containers, recycled PP trays)	• Prioritise clear PET bottles and natural HDPE/PP containers to maximise recycling value. • Avoid dark colour packaging as it has little to no recycling value. • Use a certain percentage of recyclable content in the packaging and provide proper labels. • Work with certified suppliers to ensure safety and hygiene standards. • Market your efforts to improve brand value.
Reusable Packaging (glass jars, bayong bags, stainless steel containers, fabric bags)	• Use deposit-return schemes and make the refund process simple. • Offer discount for return/refill schemes. • Use reusable packaging that can withstand multiple cleaning cycles so it can be used multiple times. • Promote culturally relevant, reusable alternatives like bayong bags.
Refill & Bulk Systems (supermarket dispensers, sari-sari store refills, Human Nature-style stations)	• Start with small products (e.g. soap, vinegar, oil, shampoo, etc.). • Invest in hygienic, tamper-proof dispensers and build consumer trust. • Communicate clearly to address the safety concerns. • Offer small incentives for customers who bring their own bottles/containers and scale up. • Communicate clearly how this saves money in the long run while reducing environmental impacts.
Glass & Metal Packaging (glass bottles/jars, aluminium cans, steel tins)	• Use for premium products like beverages, sauces, oil, etc. • Pair it with a deposit-refund scheme or with a return and refill scheme. • Encourage the bottle return system. • Partner with recyclers for take-back schemes. • Communicate clearly about the benefits of these packaging types.

Source: Authors.

[5] The key difference between home compostable and industrial compostable packaging lies in where and how the material breaks down. Home compostable packaging decomposes in garden compost bins under ambient conditions without the need for high heat, making it suitable for disposal in a standard food waste bin. In contrast, industrial compostable packaging requires the high heat and controlled environment of commercial composting facilities to break down properly.

Alternative packaging conceptualises packaging beyond plastic and the use of virgin fossil fuels. A wide range of alternatives are currently available in the market to choose from. There is no best solution, and SMEs should choose the alternatives as per their product requirements.

When using alternative SMEs are also advised to comply with the standards and requirements of local and national regulations. If the product is meant for an international market, compliance with respective end-market regulations is required. In that case, packaging material, labelling, and other details need to be reconsidered or redesigned.

Designing packaging could be complex. SMEs need to gather detailed technical requirements of their intended market and product type to understand the packaging needs. These reports, as follows, can further improve the understanding of packaging:

- Gurlich, U., V. Kladnik, and K. Pavlovic (2024), Circular Packaging Design Guideline: Design Recommendations for Recyclable Packaging (Version 6). FH Campus Wien University of Applied Sciences. https://doi.org/10.34895/fhcw.0002.v6
- Gürlich, U. and V. Kladnik (2020), Packaging Design for Recycling: A Global Recommendation for Circular Packaging Design. GS1 Austria GmbH/ECR Austria. https://www.fh-campuswien.ac.at/fileadmin/redakteure/Forschung/Dokumente/Packaging_Design_for_Recycling_Guide_a_global_recommendation_of_Circular_Packaging_Design.pdf
- Jepsen, D., T. Zimmermann, and L. Rödig (2019), Eco Design of Plastics Packaging: Core Guidelines. IK Industrievereinigung Kunststoffverpackungen e.V. https://ecodesign-packaging.org/wp-content/uploads/2020/05/ecodesigncoreguidelinesonlineEN.pdf

2.4. SME Tools for Eco-Design

Eco-Design Checklist for SMEs

An eco-design checklist is a simple decision-making tool that SMEs can use before ordering or approving packaging. It helps businesses quickly evaluate whether packaging choices are sustainable, recyclable, or unnecessarily wasteful. The table below is a generalised eco-design checklist, and the category and guiding questions can further be expanded or elaborated as per the needs of the SMEs.

Table 2.4. Eco-Design Checklist for SMEs

Category	Guiding Questions	Yes/No	Notes/Action
Necessity	Is this packaging truly needed?	o Yes / o No	
	Is the packaging only for marketing appeal?	o Yes / o No	
	Could we reduce or eliminate it?	o Yes / o No	

Category	Guiding Questions	Yes/No	Notes/Action
Material Choice	Is it a single material (mono-material)?	o Yes / o No	
	Is it widely recyclable in the Philippines (PET, HDPE, PP)?	o Yes / o No	
	Does it contain hard-to-recycle layers?	o Yes / o No	
	Does it avoid hazardous additives (PVC, oxo-degradable, heavy inks)?	o Yes / o No	
Reusability/ Refillability	Can this packaging be reused multiple times?	o Yes / o No	
	Can a refill or deposit-return system replace this packaging?	o Yes / o No	
End-of-Life	Is there a local recycler/junkshop market for this packaging?	o Yes / o No	
	If discarded, will it biodegrade safely or be collected for recycling?	o Yes / o No	
	If discarded improperly, will this cause harmful effect to environment?	o Yes / o No	
Quantity & Design	Can we reduce thickness/size without affecting product quality?	o Yes / o No	
	Can the design allow for stackability to reduce secondary packaging?	o Yes / o No	
	Are we minimising printing/inks that complicate recycling?	o Yes / o No	
	Are we avoiding excessive packaging (double bagging, oversized boxes)?	o Yes / o No	
Customer Experience	Will customers find this packaging easy to reuse, recycle, or return?	o Yes / o No	
	Does the packaging communicate clearly how to dispose of it (labels, icons)?	o Yes / o No	
	Will customers accept this design change?	o Yes / o No	

Source: Authors.

Round Table for the Eco-Design of Plastic Packaging (2019) further provides an elaborated checklist for eco-design. It also provides other checklists for optimising resource use, sustainable sourcing, design for recycling, etc., which the business could consider using or get inspiration from.

Supplier Dialogue Tool

Without the necessary supply chain and support, it would be challenging for SMEs to achieve circularity in packaging. Hence, it is recommended to prepare questions to raise with suppliers. Supplier Dialogue Tools could help in this process. The following table presents guiding questions. SMEs can elaborate on the table as per their needs.

Table 2.5. Guiding Questions for Suppliers

Category	Guiding Questions for Suppliers
Material Sustainability	Do you offer packaging made from recyclable materials (PET, HDPE, PP)?
	Do you offer compostable or biodegradable options (e.g. cassava, bagasse, coated paper)?
	What % of recycled content is in this packaging?
Compliance	Is this packaging compliant with LGU bans (e.g. Styrofoam, plastic bags)?
	Does it meet requirements under the EPR Act (RA 11898)?
	Do you have sustainability certifications (e.g. FSC, home compostable)?
Bulk & Secondary Packaging	Can you deliver products in bulk, reducing shrink wrap or polybags?
	Do you provide reusable crates or containers for transport?
	Can you reduce or eliminate secondary plastic packaging in deliveries?
End-of-Life Responsibility	Do you take back used packaging or have a return scheme?
	Are you partnered with recyclers or Producer Responsibility Organisations (PROs)?
	Can you provide data on recyclability or end-of-life options?
Innovation & Co-Development	Do you offer innovative materials (cassava, bamboo, seaweed-based)?
	Can you co-develop customised eco-design packaging with us?
	Can you provide smaller trial orders for pilot testing new packaging?

Source: Authors.

2.5. SME Tools for Eco-Design as a business strategy

Eco-Design is about being environmentally friendly. It can also bring direct benefits to the companies. It can also help to reduce costs, ensure compliance, and build long-term resilience needed to future-proof the business. Some of the benefits of eco-design are as follows:

- Eco-design can minimise material usage and lower product losses, cost savings and efficiency.
- As LGUs' regulations and the EPR Act limit haphazard usage of plastic packaging, eco-design can help to align companies to it, reducing the risk of penalties.
- Eco-designed packaging could open doors to international markets as well as companies could benefit from it by integrating it into their ESG goals.
- As younger consumers are more eco-conscious, green packaging can help to gain consumer trust and build up brand value.
- Adopting eco-design and demonstrating the company's vision toward sustainability helps future-proof the business, as well as gain investor interest.

Eco-design should be adopted as a **business strategy**. By redesigning or selecting better packaging, SMEs can reduce risk, access new markets, and build stronger relationships with customers and communities.

3. Circular Business Training: Integrating EPR/Recycling in Businesses

3.1. Introduction: What is EPR?

Imagine the empty plastic bottle or sachet from your product ending up back in your store instead of in the streets or the ocean. What would you do with it? This is the idea behind **Extended Producer Responsibility (EPR)** – businesses taking responsibility for what happens to their products and packaging after customers use them. **EPR means producers are responsible for what happens to their products and packaging after they sell them, and consumers are done using them. – they need to collect, recycle or dispose of those products so that local governments and communities aren't left to deal with all the waste**. In simple terms: if you sell it, you share responsibility for what happens when it becomes waste.

Though EPR has been defined differently by various players, with interpretations and applications varying across regions and contexts, EPR normatively is a **policy approach** that requires producers to assume full or partial financial and/or operational responsibility for the post-consumer phase of their products, thereby ensuring accountability for waste and advancing national recycling and material recovery objectives (EUROPEN, n.a; OECD, 2001; Hotta et al., 2009).

According to the Philippine EPR Act of 2022 (Republic Act 11898), 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-life stage.

EPR changes that by **shifting the responsibility** for post-consumer waste management away from solely the government or consumer and **onto producers** (manufacturers, brand owners, importers). By doing so, EPR creates a well-designed, effective, and more balanced policy approach: producers help fund or manage the collection, recycling, or disposal of the waste their products generate.

3.2. Why EPR Matters

EPR is more than just a policy – it's a **tool to build a cleaner, fairer, and more sustainable society.** By making businesses part of the solution to the waste problem, EPR helps address one of the Philippines' biggest challenges: managing the growing volume of plastic and packaging waste. Here's why it's important and beneficial:

- **Shifting the Burden Fairly: The Polluter Pays Principle**
  - Traditionally, once a product was sold and used, managing the resulting waste was seen as someone else's problem (often the government or the public) even though they didn't create the products or packaging in the first place. This old model placed a heavy burden on local governments, which often lack the resources to handle all the waste, leading to inefficiencies and pollution (Ocean Conservancy, 2017). EPR changes that by applying the **polluter pays principle**: those who put packaging or products into the market must also help pay for and manage what happens when those items become waste.
  - **For society:** This reduces the financial and operational pressure on cities and barangays, freeing up resources for other essential services like health and education.
  - **For producers:** It encourages accountability and innovation – companies are pushed to design products that create less waste in the first place.

- **Boosting Recycling and Resource Recovery**
  - When producers are required to take responsibility, recycling and recovery rates go up. EPR programmes around the world have shown strong results: in countries with packaging EPR, recycling of plastics and paper has increased significantly.
  - **For society:** More waste is kept out of dumpsites, rivers, and oceans, reducing pollution and protecting public health.
  - **For businesses:** There's motivation to design products that are easier to recycle or reuse, closing the loop and saving valuable materials.

- **Driving Smarter, Greener Design**
  - EPR also pushes companies to **think about the whole life cycle** of their products. This shift not only relieves municipalities but also incentivises companies to **design products with less waste and more recyclability** from the start, since they know they'll be dealing with the waste later to reduce costs and meet recovery targets (Hotta et al., 2009; OECD, 2024):
    - Using **recyclable or reusable packaging** instead of single-use plastics.
    - Cutting down **unnecessary packaging.**
    - Designing **durable products** that can be reused, repaired, or refilled.

  This 'design for environment' approach not only reduces waste but also builds a **culture of resource efficiency.**
  - **For society:** It means less pollution and fewer raw materials extracted from nature.
  - **For businesses:** It opens opportunities for innovation, branding, and even new product lines (such as refill packs or reusable containers).

3.3. Why Should SMEs Care about EPR?

You might be thinking: *'EPR sounds like something for big corporations. Do small businesses like mine really need to bother?'* While it's EPR laws in the Philippines currently **mandate** compliance mainly for large enterprises, there are several reasons Filipino SMEs still care and even act **voluntarily:**

Customer Preference for Eco-Friendly Businesses: Many customers (especially younger generations) prefer to buy from businesses that show environmental responsibility. If you can demonstrate that you take back and recycle your packaging or products, you can attract these eco-conscious consumers.

Staying Competitive in Supply Chains: Big brands increasingly want sustainable suppliers. If you are part of a larger company's supply chain or hope to be, showing that you manage waste and use eco-friendly packaging can give you a competitive edge. Multinational brands and export markets are starting to demand that even their smaller partners have green practices.

Cost Savings and New Revenue from Waste: Managing waste can actually save money. By reusing materials or selling recyclable scraps, you reduce raw material costs and waste disposal fees. What you used to throw away might have value. For example, some SMEs have found income by selling cardboard, plastic, or metal scraps to recyclers.

Avoiding Future Penalties and Readiness for Regulations: While not all SMEs are obliged by the current EPR law, sustainability is the way of the future. Regulations could expand to include smaller companies over time. By starting early, you'll be ahead of the curve and avoid potential penalties later. You'll also be ready if local governments enforce stricter waste rules (like bans on certain plastics or requirements to have recycling programmes).

Community Leadership and Brand Image: Adopting EPR practices voluntarily makes you a leader in your community. It improves your reputation when people see your business helping to reduce waste. You can market your business as 'proudly doing our part to keep Philippines clean', which strengthens customer loyalty. Being seen as a sustainability champion can set you apart, especially in sectors like food and retail where packaging waste is very visible.

In short, **EPR is becoming the norm in sustainable business.** By embracing it early, SMEs can innovate in products and packaging, potentially tap into support or funding from larger companies or government programmes, and build a stronger, greener brand. An ASEAN study on eco-packaging noted that SMEs need support (R&D, standards, labelling, waste infrastructure) to meet international sustainability standards. Proactively adopting EPR and recycling initiatives can help your business meet those standards and join the growing circular economy movement in the Philippines.

3.4. How EPR Works: From Principle to Practice

EPR operates on the **'Polluter Pays Principle'** – those who produce waste (in this case, producers, brand owners, and companies) should take accountability for their material choices across their supply chains and bear the cost of managing its after-use (Johaness et al., 2021). In practice, this means producers finance and organise the collection, sorting, and recycling of their products' waste instead of leaving it all to the public sector. It also functions both as a nudge and an incentive, driving innovation and the redesign of products and packaging to improve recyclability and reuse, with the ultimate aim of reducing pollution and conserving resources. Here's how EPR typically functions and benefits the wider economy:

Shared Responsibility via Producer Fees: Companies often contribute funds (fees) to collective schemes that handle waste on their behalf. These organisations are commonly known as **Producer Responsibility Organisations (PROs).** A company's fee is usually based on how much packaging or products it puts into the market – for example, a peso per kilogram of plastic packaging. The PRO then uses those funds to work with waste collectors and recyclers to recover that amount of material. This way, the more you produce, the more you pay, which encourages companies to produce less waste and design more recyclable products.

Financing Waste Management and Innovation: By channelling private money into waste management, EPR unlocks critical financing to improve recycling systems. It also drives innovation – companies have a financial incentive to redesign products and packaging to be easier to recycle or reuse (to ultimately reduce the fees or meet targets). EPR schemes around the world have been shown to significantly boost collection and recycling rates for packaging materials. For example, in some countries with EPR for packaging, recycling rates of plastics and paper increased markedly once producers were on the hook for results.

Design for Environment: Because producers are thinking about end-of-life, many start to incorporate ***eco-design***. They might use materials that are recyclable, cut down on unnecessary packaging, or create products that last longer. EPR thus doesn't just deal with waste at the end – it pushes improvements at the design stage, which is actually the top priority in the waste hierarchy (prevent waste before it happens). Over time, this means less waste going to landfills and a shift toward more **circular products** (those that can be recycled, reused, or composted).

A well designed and effectively implemented EPR can provide the benefit of actualising the 'Polluter pay Principle', increasing recycling and recovery of packaging wastes (Word Bank, 2022), and enhancing ecofriendly designs. Considering these benefits, the implementation of EPR is steadily gaining ground across ASEAN (Johaness et al., 2021).

3.5. The EPR Landscape in the Philippines

The Philippines is amongst the ASEAN countries moving forward with EPR. In July 2022, the government enacted **Republic Act No. 11898**, the Extended Producer Responsibility Act. This law, which amends the earlier Solid Waste Management Act (RA 9003), makes EPR **mandatory for large companies** with respect to plastic packaging waste. Before EPR, manufacturers were responsible only for production impact; now they must account for what happens to packaging after consumer use. This includes packaging used to protect, transport, and sell products (e.g. plastic bottles, sachets, bags, polystyrene foam). Here are key points of RA 11898 as of 2025:

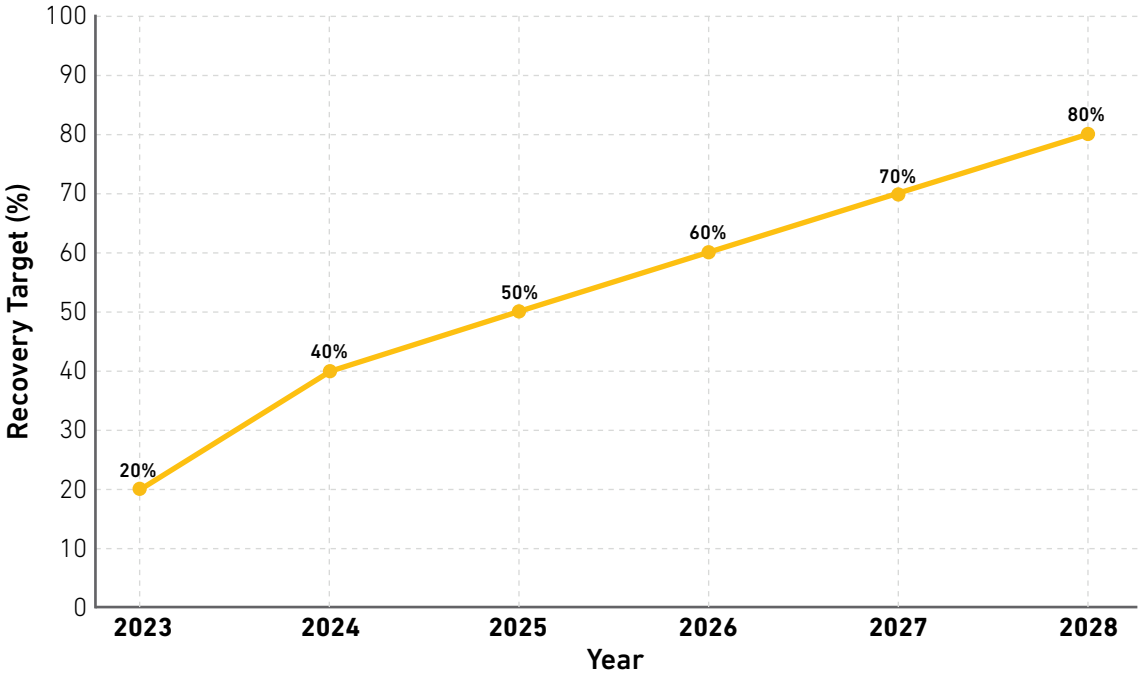
- **Scope and Obligated Enterprises:** Currently, the law mandates EPR programmes for large enterprises – defined as companies with total assets above ₱100 million (approx. US$1.8 million) (EMB, 2023). These companies must develop and register an EPR programme for their plastic packaging waste. Obligated firms include manufacturers, importers, distributors, and retailers of products with plastic packaging (covering both rigid plastics like bottles and flexible plastics like sachets and labels). The law is notably comprehensive, even covering difficult-to-recycle plastics (like multi-layer sachets), which is a game-changer in incentivising recovery of materials that often end up as pollution.

- **Obligated Enterprise:** Only large enterprises are obliged to implement EPR under RA 11898. 'Large' is defined as those with total assets above ₱100 million (approximately US$1.8 million). These companies must register an EPR programme and achieve certain targets for plastic recovery (more on targets below). Examples include big manufacturers, importers, and retailers of fast-moving consumer goods with plastic packaging.

- Small and medium-sized enterprises (SMEs) with assets between ₱3 million and ₱100 million (approx. US$53k–1.8M) are not currently required to implement EPR under RA 11898 (EMB, 2023). This exemption recognises the capacity constraints smaller businesses might face. **However, the government strongly encourages SMEs to voluntarily create and implement EPR plans** if resources allow. In practice, this means even if you are not legally obliged due to company size, it is recommended to start integrating EPR principles in anticipation of future expansion or regulatory changes. Voluntary action now can also give SMEs a competitive edge, as larger firms may prefer suppliers and partners who share sustainability commitments.

- **Targets and Timeline:** The Philippine EPR law sets gradual recovery targets to help companies steadily improve their waste management performance instead of jumping straight to 100%. Recovery goals are: 20% by end of 2023, 40% in 2024, 50% in 2025, 60% in 2026, 70% in 2027, and 80% by 2028 (EMB, 2023).

Figure 2.3. Philippines EPR Plastic Recovery Targets (2023–2028)

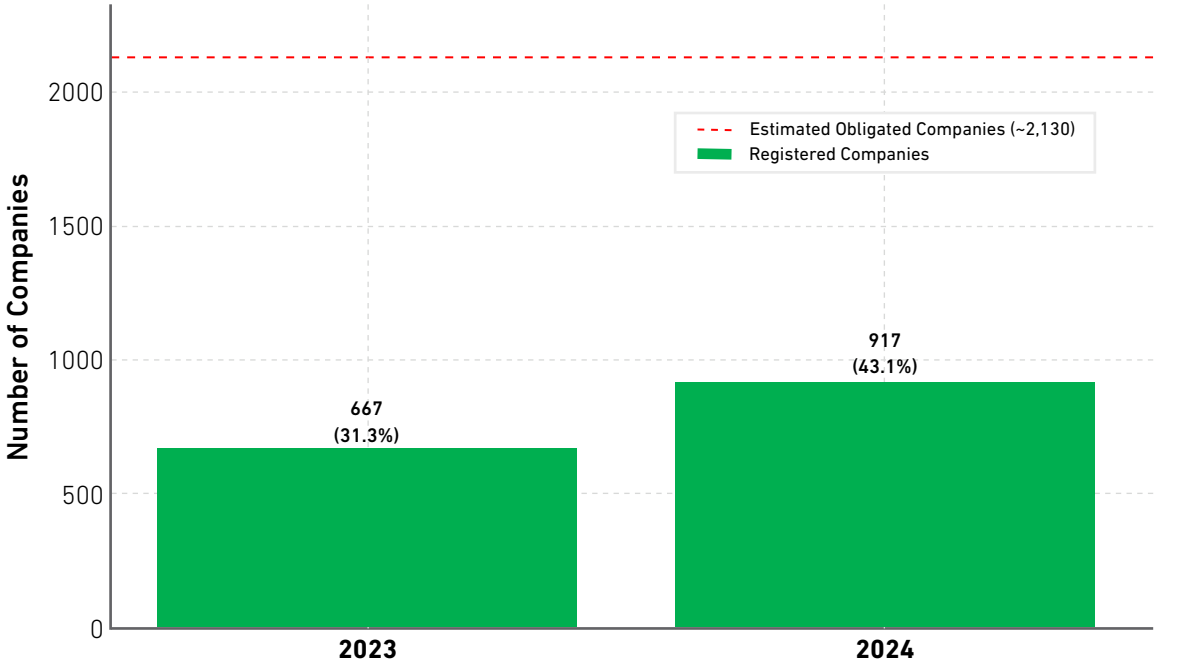


Source: Environmental Management Bureau (EMB), 2023.

What it means in practice: An 80% recovery rate is like retrieving **8 out of every 10 plastic packages** your company puts into the market – through recycling, take-back programmes, or proper disposal. The first year of implementation already showed progress. By 2024, around **895 out of 2,130 obligated enterprises** had formally registered their EPR programmes – roughly a 45% compliance rate. This marks a notable improvement in corporate engagement and innovation (WWF, 2024).

- **Progress So Far:** The first year of implementation in 2023 showed promising results. Businesses hit the 20% recovery target for 2023 – about 125,000 tons of plastic packaging were diverted from waste, which is 20% of the estimated national plastic footprint for that year (Moaje, 2024). As of early 2024, the number of companies registered in the EPR programme rose to **917**, a 37% increase from 667 companies in 2023 (Moaje, 2024). This suggests growing participation, though it's still only roughly 40-45% of the estimated 2,000+ companies that are obliged. The government is optimistic that with continued effort, the country will reach the 80% recovery goal by 2028 (Moaje, 2024). For SMEs, this trend means the big players are starting to build the systems and partnerships for EPR – systems that smaller companies might be able to piggyback on or learn from.

Figure 2.4. Progress of EPR Registration in the Philippines 2023–2024



Source: Moaje, 2024.

- **Compliance and Reporting:** Companies under EPR must register their programmes with the National Solid Waste Management Commission (NSWMC) via the DENR and report their performance annually. If they fail to meet targets or comply, they can face penalties (fines, etc.), giving real teeth to the law (World Bank, 2023). The DENR has even issued detailed guidelines (DENR Administrative Order 2024-04) on how companies should report their EPR results and undergo audits (Philippine News Agency, 2024).

  Finally, it's worth noting that EPR isn't just a Philippine movement – it's **gaining ground across ASEAN and beyond**. Several ASEAN countries (Indonesia, Viet Nam, Singapore, and the Philippines) are already in the early stages of implementing EPR schemes for packaging, and others like Thailand are preparing to launch theirs (OECD, 2025). More details can be found in the Annex section: *ASEAN Context – Status of EPR in ASEAN Countries.*

  Around the world, more governments are making producers responsible for waste, especially for plastics. This regional push means more resources, tools, and partnerships will likely become available, and expectations for sustainable packaging will rise across markets. In short, EPR is here to stay, and forward-thinking SMEs can start benefiting from it now.

3.6. Role of SMEs in Take-Back Programs and EPR Schemes

Even without a strict mandate, SMEs can contribute significantly to EPR goals through take-back programmes. Take-back programmes are systems where used products or packaging are returned by consumers for recycling or proper disposal. These can be via voluntary programmes initiated by a company or industry-led schemes and in the future, possibly mandated as regulations extend. But what key roles and steps can SMEs play in setting up take-back and recycling initiatives?

Communicating Take-Back Programs to Customers
It worth noting that a take-back or recycling programme is only as effective as the participation it achieves. Thus, clear communication with customers is vital. Communication should make take-back convenient and normative. If consumers clearly understand what to do with an empty package and feel it's easy and rewarding, participation rates will rise, helping SMEs meet recovery goals. SMEs should actively inform and encourage their customers to return used packaging or end-of-life products. Below are some of the best SMEs can adopt to improve communication with their customers to attain recovery goals in EPR:

Educate Customers on the Why and How: Use in-store signage, product labels, and social media to explain that your business has a recycling or take-back programme, why it's important (e.g. to reduce waste, keep plastics out of oceans), and how customers can participate. For example, if you operate a retail store, post notices at the checkout and on receipts: '*We take back all used plastic packaging – return your empty packs to us for recycling and get a reward!*' Making the message positive (customers feel they are part of a solution) can boost engagement.

Provide Incentives: Consider reward programmes to encourage returns (e.g. deposit-refund schemes or discounts). A classic model is adding a small deposit to product packaging that customers get back when they return the empty container. Many countries use this for beverage bottles, leading to high return rates. In an EPR context, such deposits effectively share responsibility with consumers and drastically improve collection. Customers are motivated to bring items back to reclaim their deposit (Picuno et al., 2025). If a deposit system isn't feasible, simple incentives like a loyalty point, coupon, or even public recognition for bulk returns can help.

Real Life Case: Plastic for Rice (Batangas)

In Mabini, Batangas, residents can exchange sacks of plastic trash for rice. In two years, 4.3 metric tons of plastic were collected, funded by local donors and small companies. This shows how incentives motivate recycling.
https://www.reuters.com/world/asia-pacific/philippine-diving-town-swaps-trash-rice-clean-up-its-beaches-2024-07-03/

SME Takeaway: Even small businesses can support similar initiatives by offering simple rewards for recyclables.

Use Multiple Channels for Awareness: Don't rely on a single notice. Announce your take-back initiative on your website, Facebook page, local community groups, and through the Chamber of Commerce or trade associations. Some Philippine businesses have successfully organised community collection drives (for example, e-waste or plastic drop-off events) by partnering with local barangays and promoting via barangay officials and local churches. These events both collect waste and spread the word.

Transparency and Feedback: Show customers the impact of their participation. For instance, 'Thanks to your returns, we recycled 500 kg of plastic last quarter – equivalent to 40,000 bottles!' Sharing such data or stories (perhaps in an email newsletter or a poster in your shop) reinforces engagement. Customers are more likely to participate if they see tangible results. In EPR programmes, public awareness campaigns are often used by Producer Responsibility Organisations (PROs) to encourage citizens to sort waste and return items (WWF, 2024) SMEs can mirror this approach on a smaller scale, celebrating customer contributions to recycling.

3.7. Integrating EPR into Your Business: A Practical Framework

So how can a small or medium business actually implement EPR or a recycling programme? It might sound complex, but let's break it down into practical components that any business owner or manager can work on. Integrating EPR and recycling into operations usually involves key elements outlined below:

1. Product and Packaging Labelling for Recycling

A critical first step is to **label your packaging or products with recycling information.** Clear labels or markings guide your customers on what to do after use. Remember, many people don't recycle simply because they're not sure how or where to do it. As the producer, you can make it easier for them.

What to Include on Labels: At minimum, you might put a simple recycling symbol and a note like 'Please recycle me' or 'Return to us for recycling.' If your product is in plastic packaging, consider including the plastic type (for example, the number inside the recycling triangle, like **PET #1** or **PP #5**). This helps in sorting later. If you want to be more informative, you could add a short line: e.g. *'Dispose of in a recycling bin' or 'Bring this pouch back to our store for a reward.'* According to global experts, guidelines and labelling should help customers easily identify environmentally friendly packaging and how to handle it after use (GACERE, 2023).

Why It Matters: Labels remove confusion. The customer shouldn't have to guess if something is recyclable or if you will take it back. Make it obvious. In fact, when companies register an EPR programme in the Philippines, they are asked to include information on how their packaging is labelled to facilitate recovery and proper disposal (EMB, 2023). This shows that even regulators find labelling important. For SMEs, adopting good labelling practices voluntarily is a quick win – it costs little but can greatly improve return rates.

Best Practices: Use symbols and language that people understand. Many countries use standard recycling icons (the chasing arrows triangle, or a trash bin with a person icon). Some innovative approaches include a color-coded system or QR codes that customers can scan to get disposal instructions or find the nearest drop-off point. If your product is compostable or biodegradable, say so (and what conditions are needed – industrial composting vs home composting, etc.). Consistency is key: use the same messages on the product, on your in-store signage, and on your social media, so customers get reinforced instructions.

Local Tip: On small packages like sachets, space is limited. You could use simple text like '#BalikSaamin' (return to us) or an icon of a bag returning to a store. Some Philippine companies have started labelling packaging with '100% recyclable' or 'Balik Plastics: We accept empty packs' to signal to consumers there's value in returning it. If your packaging isn't easily recyclable, consider that a red flag – perhaps you should also rethink the packaging material (see Circular Design below), because whatever you collect, you'll need a recycling solution for.

2. Collection System Design (Take-Back Program Setup)

Next, decide **how and where** you will get the used products or packaging back from customers. This is your **take-back or collection system**. The easier and more convenient it is for customers, the more participation you'll get. Here are common collection methods to consider:

In-Store Drop-off Bins: This is one of the simplest ways. Place a clearly marked bin or box at your shop or office where customers can drop off used items (empty packaging, used products, etc.). Put it somewhere visible, like near the entrance or checkout counter, with a sign. For example, a pharmacy might have a bin for customers to return empty medicine blister packs or bottles; a sari-sari store could have a pouch where people drop used sachets when they come to buy new ones.

Mail-Back or Pick-up Programs: If you sell products online or have a delivery system, you can integrate take-back there. For instance, an electronics retailer might include a **free return shipping label** for old gadgets, so when someone buys a new one, they can mail back the old device for proper recycling. Or a water delivery service could **pick up empty containers** when delivering new gallons. This method can be costlier, so it works best for higher-value items or hazardous wastes (like e-waste) where proper disposal is critical.

Deposit/Return at Point of Sale: This is a system many beverage companies use. You charge a small **deposit** on a container, which customers get back when they return it. SMEs can apply this too. For example, a cafe could sell drinks in reusable glass jars with a ₱20 deposit – customers get it back or a refill when they return the jar. This encourages a near 100% return rate because people want their deposit back. It's essentially like borrowing the packaging. Many local beer and soda brands have long practiced this with glass bottles (e.g. beer bottles or Coca-Cola glass bottles), achieving high return and reuse rates. You might not have a formal deposit 'law' for your product, but you can create your own mini-deposit system.

Choose a collection method that fits **your capacity and your customers' habits.** If you only have one shop, an in-store bin is manageable. If your customers are far-flung, maybe partner with a courier for return pickups or align with an existing collection programme (some brands allow other products to be dropped in their bins). **Start with a pilot** in one location or with one product line. See how many people participate and how much you collect in a month, then adjust. It's better to begin small than to roll out a complex scheme everywhere and get overwhelmed.

3. Ensuring Recycling or Proper Disposal of Collected Items

Collection is only half the battle– once you get items back, you need to actually recycle them or ensure they're properly processed. This means **planning end-to-end:** before you even start collecting, figure out *'Where will this stuff go next?'.*

Identify Recycling Partners: Research local recyclers, junk shops, or waste processors who handle the materials you will collect. For plastics, is there a recycling plant or a company like **The Plastic Flamingo** (which turns plastic waste into planks) that can take your plastic packaging? For paper or cardboard, most junk shops will be happy to take those for recycling. It might be as simple as contacting the nearest waste management facility or aggregator and asking if they accept what you plan to collect.

No Recycler Nearby? Creative Solutions: In some areas, you might not find a local recycling facility for certain materials (say, multilayer sachets or textiles). In that case, consider upcycling or aggregating the waste. Could the material be repurposed in some way? For example, some entrepreneurs collect sachets and turn them into craft items. There are social enterprises in the Philippines doing just that – turning sachets into boards, bags, and souvenirs/handicrafts. If you gather enough volume, you might arrange to **ship the collected material to bigger recyclers** in the city. The key is to avoid the pitfall of proudly collecting waste from customers only to quietly send it to the dumpsite later. That would defeat the purpose and could even become a PR risk if customers find out.

Plan for Storage and Handling: As you collect, you'll need to safely store the materials until you have enough to send to a recycler. This could mean setting aside some space in your backroom. Make sure it's not creating health or safety issues (e.g. rinse bottles to prevent pests, flatten boxes to save space). If dealing with potentially hazardous items like batteries or broken electronics, ensure they're stored safely (sealed containers, away from flammables, etc.) until pickup.

Documentation: As part of the framework, set up basic record-keeping. Track quantities of waste collected and sent for recycling. This data will be useful for internal evaluation, and if EPR regulations expand to SMEs, you'll be ahead of the reporting requirements. It also allows you to showcase impact (as mentioned earlier, sharing with customers or stakeholders).

4. Documentation and Tracking

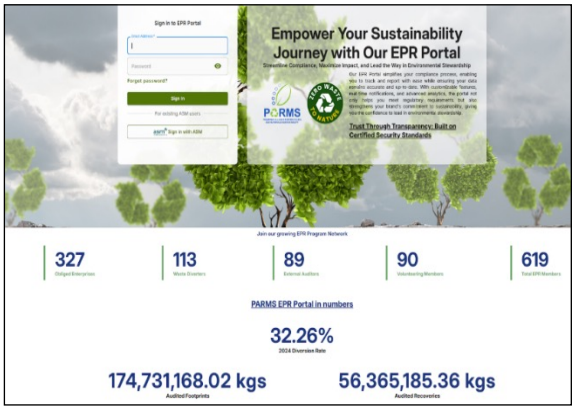
It's important to **track what you're doing** – not only for your own evaluation, but also to have data to share with stakeholders or even authorities if needed. You don't need a fancy system; a simple notebook or spreadsheet will do:

What to Record: At minimum, note the quantities of materials you collect and what you do with them. For example: *'January: Collected 100 kg of plastic bags, sent 80 kg to recycler X, 20 kg were too contaminated and went to disposal.'* Also record any rewards given (e.g. how many discounts or freebies you handed out for returns). If you're working with a recycler, ask them for a certificate or receipt that confirms how much material you gave them for recycling. This builds credibility.

Why Record: Tracking helps you see progress over time – are your collections increasing? Did that Facebook campaign in March lead to more returns in April? It also lets you measure against any goals (like if you set a goal to collect 30% of your product output, did you hit it?). Additionally, if the EPR law expands to cover SMEs, you'll already be ahead in terms of compliance because you have data ready. Even for voluntary efforts, having numbers allows you to **communicate impact:** for instance, *'In 2024, we collected 500 kg of waste for recycling – that's 500 kg that didn't go to a landfill or the ocean.'*

Gather Certification and Receipts: If you partner with a recycler, ask them for certificates or weight receipts for the materials they process – this adds credibility to your programme. Larger companies under EPR often maintain detailed data through their PRO on collection, sorting, and recycling targets; an SME can keep it simpler but should not neglect this aspect.

Figure 2.5. Example of the EPR Performance Data of Philippines Alliance for Recycling and Materials Sustainability



Source: https://eprportal.onrender.com/

Learn and Improve: Use the documentation for learning. If certain items aren't being returned, maybe customers didn't know you collect them – so that's a sign to improve communication. If a lot of what's returned can't actually be recycled (e.g. too dirty or wrong materials), that's a sign you need to clarify to customers how to return items (like 'rinse bottles before returning') or reconsider what you collect.

Framework Tip:
Start small and optimize as you go. You don't have to launch a comprehensive EPR program overnight. Maybe begin with one type of waste that is most relevant to your business – for example, used plastic packaging if you're a retailer, or used toner cartridges if you run an office supply store. Get the kinks out of the system with that one waste stream. Find a good local partner to handle it. Once it's running smoothly and your team is comfortable, you can expand to other materials over time. Also, update your labels and instructions whenever you add something new. For instance, if you decide later to collect used clothing in your boutique, add a note on your tags or at checkout: 'We take back old clothes for recycling.' This way, your EPR program evolves hand-in-hand with your capacity and experience.

Example – Closing the Loop:
Suppose you run a small cosmetics business and decide to take back empty plastic lotion bottles.

- Step 1, you put a bin in your store.
- Step 2, you inform customers you'll give a ₱10 discount for each empty returned.
- Step 3, you contact a local plastic recycling outfit (or a bigger brand's recycling program) that accepts #2 HDPE plastic (common in lotion bottles). You arrange that whenever you've collected, say, 50 kg of bottles, they'll pick it up or you'll drop it off, and they'll recycle it into new plastic pellets.
- Step 5, You keep a log of how many bottles you collected. Then you post on Facebook, 'Thanks to you, we sent 500 bottles to be recycled last month!' – closing the loop and promoting your effort.

This kind of small initiative, when replicated by many SMEs, can significantly reduce waste leakage.

3.8. Collaborating for Success: Partners in EPR and Recycling

One of the most important things to remember is **you don't have to do this alone.** Even big companies collaborate through Producer Responsibility Organisations, and for SMEs, partnerships are even more crucial. By working with the right partners, you can significantly amplify your impact without straining your own resources. Here are key collaboration opportunities and how to leverage them:

Recycling Companies and Waste Processors:
Build relationships with **recycling firms, waste aggregators**, or **junk shops** in your area. These partners can buy or accept the materials you collect. For example, many cities have junk shop networks that purchase segregated recyclables (plastic bottles, cardboard, etc.) – an SME can channel collected packaging to them, possibly even generating a small revenue. Collaboration ensures that once you've collected items from consumers, a professional will handle the downstream processing. You may negotiate collection schedules or volume-based pickups with these recyclers. Essentially, SMEs supply the 'feedstock' (used products/packaging) and recyclers provide the recycling service. This synergy is foundational to EPR systems – in fact, many Producer Responsibility Organisations contract with recyclers for operational execution of waste recovery.

Real Life Case: Food and Beverage Recycling Alliance in Nigeria

Although led by big companies, indigenous waste collectors are actively involved to make collection sustainable in the long run.
SMEs can replicate this on a smaller scale: e.g. a group of restaurants could collaborate with a local cooperative of waste pickers to collect and recycle used plastic utensils or cups, providing fair compensation in return. This not only ensures higher collection rates (because these collectors know how to gather efficiently) but also yields social benefits – supporting livelihoods.

Producer Responsibility Organisations (PROs)/EPR Organisations:
In an EPR context, PROs are collective entities that producers join to fulfil their EPR obligations together. They organise take-back and recycling on behalf of member companies. By joining a PRO, you contribute funds or fees, and the PRO carries out the actual waste collection and processing, achieving economies of scale. According to guidance, partnering with a PRO is often easier for companies as it 'cuts out the middleman' of doing everything yourself, and provides expertise and ready infrastructure (WWF, 2024). PROs coordinate stakeholders including municipalities, recyclers, auditors to maintain data records, and report to regulators. They also run public awareness campaigns that benefit all members (EMB, 2023). In essence, a PRO functions as an extension of your company's environmental team. For instance, the Philippine Alliance for Recycling and Material Sustainability (PARMS) is an industry coalition working on EPR (like a recycling facility for sachets). Joining such groups can amplify an SME's impact and reduce individual cost.

Local Government Units (LGUs):
LGUs (cities/municipalities and barangays) are mandated by law to manage solid waste in their jurisdictions. This makes them natural partners for any take-back programme. Engage with your City Environment and Natural Resources Office (CENRO) or barangay officials about your plans – they may offer support such as inclusion of your initiative in local recycling drives, permission to use barangay material recovery facilities (MRFs) for storage of collected materials, or coordination of pickup by city waste trucks. Some LGUs might already have a recycling collection schedule (for example, certain days for plastics or e-waste collection); an SME can piggyback on these by collecting from customers and then handing over to the LGU system. Collaborating with LGUs also helps in reaching the community – they can help publicise your take-back programme through barangay information channels. In the Philippines, examples have shown the importance of engaging government and communities: Iloilo City, for instance, has been working on inclusive EPR approaches by involving the city waste office and waste worker organisations to ensure programmes reach a wide area and remain sustainable. The lesson is clear: when businesses coordinate with local authorities, the take-back systems can integrate into existing waste management structures for greater efficiency and impact.

Communities and Informal Sector:
Don't overlook the informal waste sector – the network of waste pickers, scavengers, and small junk shops that already operate in our towns. These individuals are experts at recovering materials of value. EPR schemes internationally have learned that excluding the informal sector can backfire, leading to livelihood losses and even less efficient collection (World Bank, 2022; WWF, 2023). Instead, inclusive EPR seeks to integrate and uplift these workers. As an SME, you can collaborate by, for example, hiring or contracting local waste collectors to gather post-consumer waste for you, or by donating equipment (gloves, carts) to a waste picker association in exchange for their help in collecting your branded waste. Involving informal waste workers has been identified as a pillar of effective EPR – offering them roles in the system and professionalising their services (World Bank, 2022; Kojima and Suwarno, 2025).

Collaboration Tips:
By forming partnerships with recyclers, EPR organizations, and LGUs, SMEs can overcome resource limitations and achieve more than they could alone. Many enterprises have found that such partnerships are key to meeting EPR goals. Collaborations create a support network: the SME focuses on its strengths (engaging customers and aggregating waste), while partners handle transportation, recycling technology, or large-scale coordination. This multi-stakeholder approach is exactly how formal EPR systems operate, and it can be mirrored at the SME level for voluntary initiatives. Remember that effective EPR schemes are holistic – they bring together producers, consumers, waste managers, and authorities in a coordinated loop. SMEs are an important link in this loop and can leverage collaborations to punch above their weight in sustainability efforts.

3.9. Best Practices for Integrating EPR and Recycling in Your Operations

Now that we've covered the frameworks and partnerships, let's summarise some **best practices** that have been successful for businesses (especially SMEs) in the Philippines and similar contexts. Think of these as guiding principles or strategies as you design your own circular initiatives:

Start with Waste Assessment and Set Targets:
First, know your waste. Take a walk through your office or production line and list the top 1-2 types of waste you produce or that your products end up as (e.g. plastic wrappers, paper cartons, electronic scraps, food waste, etc.). This gives you a clear baseline of what problem to tackle first. Then set a realistic goal for improvement. For example, '*Reduce our plastic packaging waste by 50% in one year,' or 'Collect at least 200 used product units each quarter for recycling*.' Targets give your programme direction and motivation. Even if the targets are voluntary, having a number to aim for helps measure progress.

(Tip: Aligning with national goals can inspire your team – e.g. knowing the EPR law's benchmark is 50% by 2025, you might aim for a similar percentage in your own operations as a point of pride.)

Embed Circular Design into Products:
Not all solutions are end-of-life. You can make changes **upstream** in your product and packaging design that make a huge difference later. Ask yourself during design or procurement: *'Is there a way to make this product generate less waste or be easier to recycle?'* For instance, if you currently use a multi-layer plastic sachet (common but hard to recycle), could you switch to a mono-material pouch or a recyclable paper packaging? If you're in fashion, consider using single-fibre textiles which are easier to recycle, and design timeless styles that encourage customers to keep them longer. Every bit of waste you **prevent or reduce by design** is waste you don't have to deal with later. EPR isn't only about cleaning up waste; it's also about **waste prevention at source**. In practice, some companies even consult recyclers during the design phase – e.g. asking a recycling partner if a new packaging idea is recyclable in local facilities. Designing with end-of-life in mind might also let you advertise a nice label like 'This packaging is 100% recyclable – please help us by recycling it.' This educates consumers and signals your commitment. And as a bonus, simpler packaging or using less material can cut costs.

Leverage Industry Initiatives and Resources:
You are not the first to attempt this, so no need to reinvent the wheel! There are many resources and groups out there eager to help SMEs become more circular. In the Philippines and ASEAN, organisations like the **ASEAN Centre for Sustainable Development Studies** publish guides on sustainable packaging for SMEs. The **PREVENT Waste Alliance**, a global initiative, offers an open-source **EPR Toolbox** with case studies from 5 countries and 14 factsheets on how to set up EPR for packaging. These can give you ideas and proven models to emulate.

Also keep an eye on **government-led training:** The Department of Trade and Industry (DTI) and the Department of Environment and Natural Resources (DENR) sometimes hold seminars or pilot programmes on waste management and EPR – often through local chambers of commerce or trade associations. Joining such events can provide networking (maybe you meet a supplier of recycled materials, or a fellow SME to collaborate with) and updates on regulations.

Remember, you're part of a larger business community, and many are starting this journey – so share knowledge, ask for help, and maybe even form a small coalition with other nearby SMEs to tackle waste together.

Continuous Improvement and Localisation:
Think of EPR integration as an ongoing process, not a one-time project. Monitor how your initiatives are doing and be ready to adjust. Maybe you set up a take-back bin but only a trickle of returns come in – perhaps customers need more incentive or awareness, so you tweak your approach (like offer a small discount for returns, or do a social media blitz explaining why returning helps). Or you find out that a certain type of collected material isn't getting recycled because it's contaminated – then you might start asking customers to rinse items, or you switch to a different material that recyclers prefer.

Also, **adapt to your local context.** One size doesn't fit all in the Philippines. A solution that works in Manila might not work in a rural town. For example, if you're in a province where recycling facilities are far away, you might focus more on waste reduction and reuse (to avoid creating waste that you have no capacity to recycle). Stay updated with local waste ordinances – some LGUs may introduce new rules (like requiring businesses to have segregated bins or banning certain plastics).

By aligning your programme with what local authorities are doing, you ensure support and longevity. The key is to be **flexible and responsive:** treat your EPR programme like a part of your business that you refine over time, just as you would refine your product line or customer service.

Celebrate and Share Success Stories:
Don't be shy about your achievements – celebrating wins not only boosts your team's morale but also spreads the word and inspires others. If your take-back programme hit a milestone (say, '*1 ton of plastic recycled in 2024*'), announce it! This can be through a Facebook post, a sign in your store, or even a little feature in the local paper or magazine/bulletin. Positive publicity can attract customers who value sustainability and even other businesses who might approach you to collaborate.

Some SMEs have even pursued certifications like 'Plastic Neutral' or 'Zero Waste to Landfill' once they reach certain goals. These certifications (often given by environmental organisations) can further validate your efforts and possibly attract support (some government programmes or grants favour businesses with green initiatives).

Additionally, sharing your story in community or industry gatherings can position your SME as a leader in circular practices. For example, if you manage to implement a successful bottle return system, you could present that case in a Chamber of Commerce meeting so other businesses can learn. It creates a ripple effect of more businesses joining the movement. Always frame it as a joint success: 'Thanks to our customers, we achieved this!' – this brings your customers into the story and encourages them to keep participating.

Your Role in the Circular Economy

Extended Producer Responsibility (EPR) and recycling may seem designed for large corporations, yet small and medium enterprises (SMEs) have an equally vital role. In the Philippines, while current laws focus on big companies' plastic packaging, the broader vision of a circular economy calls on businesses of every size to contribute.

The shift to circular business models is accelerating. SMEs that consider EPR today position themselves not just as participants, but as pioneers shaping a sustainable future

Case Studies: Implement Sector-Specific Solutions

Food & Beverage Packaging:
This sector is a priority in EPR due to high volumes of plastic waste. Best practices include participating in container return programmes – e.g. some beverage companies encourage customers to return glass bottles for reuse and deposit refund is given. An SME can adopt a similar approach for milk tea jars, beer growlers, etc. For plastic packaging like sachets or pouches, common in food products, consider partnering with initiatives that collect and upcycle these such as converting sachets into building boards or 'eco-bricks'. A notable local example is a coalition of Filipino manufacturers has piloted collecting used sachets and laminates, shredding them to mix with cement for construction materials. Also, clearly label packaging with 'Dispose Responsibly – Help Us Recycle' and perhaps provide drop-off points at retail outlets for packaging after use. Communicating with customers in the food/retail space is key because many consumers are unsure what to do with packaging – a simple sign 'We accept back all clean plastic bags and sachets for recycling here' can divert a lot of waste from landfills.

Retail (General Merchandise):
Retailers often act as the collection hub for various products they sell. One best practice is to set up a 'Take-Back Corner' in-store. For example, a supermarket chain might have bins for used batteries, light bulbs, or plastic bags; a bookstore could collect empty printer cartridges; a mall could host an e-waste drop-off kiosk. These services not only help customers dispose of tricky waste streams but also increase foot traffic and customer loyalty (people appreciate retailers that care). In the Philippines, some malls have annual e-waste collection events in partnership with tech companies. SMEs can start small – maybe a monthly collection drive in front of your store (coordinate with your city's environment office or an NGO to handle what's collected). Collaboration with LGUs can be useful here, as they may help haul away the collected items. Retailers can also reduce waste generation by offering refill stations (for detergents, coffee beans, cooking oil, etc.) thus cutting down packaging waste at source – a concept gaining traction known as 'bring your own container'.

Textiles and Fashion:
The textile sector is often overlooked in EPR discussions, but it's gaining attention because of fast fashion waste. Globally, brands like H&M and Zara have voluntary garment collection programmes – customers drop off unwanted clothes in-store for recycling or donation (GFA, 2025). An SME retailer or manufacturer can create a take-back programme for old clothes or fabric scraps, offering a small voucher as an incentive. Collected textiles can be sent to local upcyclers – such as startups in the Philippines that turn waste into rugs, bags, or even building materials – or donated to charities if still wearable. Another practice is to work with the local government on textile recycling projects. For example, the DOST's Philippine Textile Research Institute has an initiative called 'Retrotex' turning textile waste into new fibre and yarn. SMEs in fashion could contribute their production offcuts to such projects. Additionally, encourage customers to repair and alter clothes by perhaps hosting occasional workshops or partnering with seamstresses – this extends product life (a core idea of EPR to reduce waste). Label clothes with material content and care instructions that highlight longevity (e.g. '100% cotton – durable and recyclable'). While textile recycling infrastructure is nascent, focusing on reuse and take-back now positions your business as a sustainability leader in this sector.

Quick Start Guide: 7 Steps for SMEs to Kickstart EPR and Recycling
Here is a simple step-by-step guide that any SME can follow to begin integrating EPR and recycling into their business. Think of this as a quick-start checklist to get the ball rolling:

1. **Assess Your Waste:** Take a quick survey of your shop or operations. What are the top one or two waste materials you produce or that end up with your customer? Is it plastic bottles? Sachet wrappers? Cardboard boxes? Old electronic parts? Identify the most significant waste stream – this is your starting point for action.
2. **Set a Simple Goal:** Define a clear, realistic goal for that waste. For example, '*Collect back 30% of our used plastic bottles from customers this quarter*,' or '*Reduce our paper waste by half this year.*' Having a concrete goal will motivate you, your staff, and even your customers, and it gives you something to measure success against.
3. **Choose a Strategy:** Decide on the take-back method or reduction strategy that fits your business. It could be setting up a drop-off bin at your store, implementing a deposit-refund system for containers, or offering a trade-in discount for old items. Pick one approach that you think is most feasible for now. (*For instance, a bakery might put a bin for bread plastic bags returns, while a gadget shop might give 5% off for old phone trade-ins.*) Keep it manageable and aligned with what your customers are likely to participate in.
4. **Engage Your Customers:** Let your customers know about the programme in a friendly and consistent way. Create a simple poster or sign in your store, add a note on your Facebook page, or have your cashier mention it. For example: '*Bring back your used sachets here and get ₱5 off your next purchase!*' Make sure your own staff understand the programme and can explain it – they are your frontliners in encouraging customers.
5. **Build Partnerships:** Reach out and get help. Call your barangay to see if they have a recycling programme you can join. Talk to a local junk shop or recycler about buying or accepting the materials you collect. Even a small partnership can reduce your workload significantly. For example, if you collect plastic bottles, maybe a local waste picker group can agree to pick them up weekly, or a recycling company can provide a collection sack and pickup when it's full. Collaboration makes your initiative more sustainable.
6. **Track and Record:** Keep a simple log of what you're collecting. It could be a notebook by the bin where staff jot down: '*Week 1: 10 kg of plastic bottles, Week 2: 15 kg,*' etc. If you gave discounts for returns, note how many. This doesn't need to be complex, but having data helps you see progress and will be useful to report back (to your team, customers, or even on social media to celebrate success).
7. **Celebrate and Share:** When you hit a milestone – no matter how small – celebrate it! Post a thank you on social media or put up a board in your store: '*Thanks to our customers, we recycled 100 kg of plastic this month!*'. You could even host a small customer appreciation day if the programme goes really well. Recognising contributions keeps everyone motivated and spreads a positive message that your business is making a difference.

   Following these steps, even a very small enterprise can kick off an EPR or recycling initiative with minimal cost. The key is to start with something achievable. Once you've gone through one cycle of these steps, you can refine and expand your efforts.

References

An Phat Holdings (n.d.(a)), AnBio Compostable Materials. https://rkcmpd-eria.org/private-sector-platform/anbio-compostable-materials

An Phat Holdings (n.d.(b)), AnEco Compostable Products. https://rkcmpd-eria.org/private-sector-platform/aneco-compostable-products

ASEAN (2021), Integrating SMEs in Eco – Friendly Packaging to the Global Value Chain (Accessed on August 2018 via asean.org)

Chen, Y., A.K. Awasthi, F. Wei, Q. Tan, and J. Li (2021), 'Single-use plastics: Production, usage, disposal, and adverse impacts', *Science of the Total Environment*, 752, 141772. https://doi.org/10.1016/j.scitotenv.2020.141772

Congress of the Philippines (2022), Republic Act No. 11898: An act institutionalizing the extended producer responsibility on plastic packaging waste, amending for this purpose Republic Act No. 9003, otherwise known as the 'Ecological Solid Waste Management Act of 2000'. Environmental Management Bureau. https://emb.gov.ph/wp-content/uploads/2023/02/RA-11898.pdf

Department of Environment and Natural Resources (DENR) (2024), *Roadmap for the Management of Plastic Waste and Reduction of Non-recyclable Single-use Plastics in the Philippines.* Quezon City: DENR.

EcoNest Philippines (n.d.), EcoNest Sustainable Packaging. https://www.econestph.com/

Econtainer Philippines. (2021, September 6). Paper straws and containers aren't enough — Turn to sugarcane instead. https://econtainer.ph/blogs/articles/paper-straws-and-containers-arent-enough-turn-to-sugarcane-instead

Environmental Management Bureau (EMB) (2023), Extended Producer Responsibility Law. (Accessed 18 August 2025 via) https://www.emb.gov.ph/wp-content/uploads/2023/04/EPR-Frequently-Asked-Questions.pdf

Geyer, R., J.R. Jambeck, and K.L. Law (2017), 'Production, use, and fate of all plastics ever made', Science Advances, 3(7), e1700782. https://doi.org/10.1126/sciadv.1700782

Global Alliance on Circular Economy and Resource Efficiency (GACERE) (2023), Circular Economy and Extended Producer Responsibility. Webinar Report. UNIDO.

Global Fashion Agenda (GFA) (2025), Mapping of Global Extended Producer Responsibility for Textiles. Global Fashion Agenda. Public Affairs.

Gozum, I. (2024, 22 March), Refill hubs 'win-win' solution for sari-sari store owners, buyers. Rappler. https://www.rappler.com/philippines/metro-manila/refill-hubs-solution-store-owners-buyers-report/

Hotta, Y., S. Hayashi, M. Bengtsson, and H. Mori (2009), Extended Producer Responsibility Policy in East Asia in consideration of International Resource Circulation. Institute for Global Environmental Strategies, Japan.

Johannes, H.P., M. Kojima, F.Iwasaki and E.P.Edita (2021). Applying the extended producer responsibility towards plastic waste in Asian developing countries for reducing marine plastic debris. Waste Manag Res. 39(5):690-702. https://doi.org/10.1177/0734242x211013412

Livelo, G. (2020, 19 January), 'Wala-Usik Sari-sari stores innovate with non-sachet products to help reduce sea waste', GoodNewsPilipinas.com. https://www.goodnewspilipinas.com/wala-usik-sari-sari-stores-innovate-with-non-sachet-products-to-help-reduce-sea-waste/

Moaje, M. (2024), *'20 percent of plastic wastes diverted in first year of EPR Act – DENR'*, Philippine News Agency. Retrieved from https://www.pna.gov.ph/articles/1226297

Nielsen (2022), Sustainability: The New Consumer Spending Outlook. https://nielseniq.com/wp-content/uploads/sites/4/2022/10/2022-10_ESG_eBook_NIQ_FNL.pdf

OECD (2024), Extended Producer Responsibility Basic facts and key principles. OECD Publishing.

OECD (2025), *Regional Plastics Outlook for Southeast and East Asia*. OECD Publishing, https://doi.org/10.1787/5a8ff43c-en

Ocean Conservancy (2023), Sea the Change: 2023 International Coastal Cleanup Report. https://oceanconservancy.org/wp-content/uploads/2023/09/SeatheChange-2023-Report.pdf

Ocean Conservancy (2017), THE NEXT WAVE: Investment Strategies for Plastic Free Seas. Ocean Conservancy.

Philippine Coffee and Barista Institute. (2025, January 7). 2025 Coffee Shop Trends in the Philippines: What's Brewing Locally? HYPERLINK "https://phcoffeeandbarista.institute/blog/news/2025-coffee-shop-trends-in-the-philippines-what-s-brewing-locally?utm_source=chatgpt.com"https://phcoffeeandbarista.institute/blog/news/2025-coffee-shop-trends-in-the-philippines-what-s-brewing-locally

Philippine News Agency (2024), '*EPR program diverts 125K tons of plastic waste from environment*'. https://www.pna.gov.ph/articles/1226297

Picuno, C., S. Gerassimidou, W. You, O. Martin, and E. Iacovidou (2025), 'The potential of Deposit Refund Systems in closing the plastic beverage bottle loop: A review', *Resources, Conservation and Recycling*, 212, 107962.

Romallosa, A. R. D., M.O.T. Penentrante, and Ravena, N. G. . (2024). Junkshops as Recycling Chain Actors in the Recovery of Waste Resources from a Highly Urbanized City in the Philippines. Applied Environmental Research, 46(3). https://doi.org/10.35762/AER.2024039

Round Table for the Eco Design of Plastic Packaging (2019), Checklist: Management of eco design in packaging projects. https://ecodesign-packaging.org/wp-content/uploads/2019/09/01b-Mgmt-Prozess-Integration-von-Eco-Design-Checkliste-final-EN.pdf

Suwarno, A.S., I. Suradja, R. Kawamura, and M. Kojima (2025), *ASEAN Conference on Combating Plastic Pollution 2024: Action, innovation, and partnership to phase out plastic pollution.* Economic Research Institute for ASEAN and East Asia (ERIA).

The Coca-Cola Company. (2023, September 7). Coca-Cola Philippines launches new 100% rPET bottles.

https://www.coca-cola.com/ph/en/media-center/coca-cola-philippines-launches-new-100-rpet-bottles

United Nations Environment Programme and Secretariat of the Basel, Rotterdam and Stockholm Conventions (2023), Chemicals in Plastics: A Technical Report.

World Bank. (2021). Market study for Philippines: Plastics circularity opportunities and barriers.

World Bank (2022), The Role of Extended Producer Responsibility Scheme for Packaging towards Circular Economies in APEC.

WWF (2024), The Impact of Extended Producer Responsibility: A One-Year Review of EPR in the Philippines. White Paper. WWF Philippines.

Xue, W. (2023), 'Innovations and future trends in plastic waste management', in Kootattep et al., *Marine Plastics Abatement: Challenges, Implications, Assessments and Circularity* (pp.433–514). IWA Publishing.

ANNEX: ASEAN Context-status of EPR in ASEAN Countries

Across ASEAN, member states are gradually embracing EPR as a crucial mechanism for fostering multi-stakeholder participation in recycling and waste management, unlocking critical financing, and advancing the circular economy transition in alignment with sustainable consumption and production goal. It complements other waste-reduction strategies, like reducing single-use plastics and improving recycling infrastructure, by creating an extended responsibility loop from product design to end-of-life. For SMEs, understanding EPR is important not only for legal compliance but also for aligning with international standards, improving brand image, and contributing to community environmental goals. Table 2.6 provides an overview of the status of legislative framework of EPR in ASEAN.

Developing EPR: Malaysia and Thailand are in advanced stages of establishing EPR for packaging, building on voluntary initiatives.

- The Malaysian government's Plastic Sustainability Roadmap (2021–2030) launched a voluntary industry-led EPR programme (through the Malaysian Recycling Alliance, MAREA) for 2021–2025, with a fully mandatory EPR scheme planned from 2026 onward. The country's new Circular Economy Blueprint (2024) also calls for EPR to strengthen waste management legislation.
- In Thailand, the Action Plan on Plastic Waste Management Phase II (2023–2027) includes developing an EPR system for packaging waste. A draft Sustainable Packaging Management Act is being formulated aiming for EPR implementation by around 2027. In the interim, a voluntary packaging EPR platform run by the Thailand Institute of Packaging and Recycling Management for Sustainable Environment (TIPMSE) is bringing together companies to pilot EPR approaches

Early-Stage Planning: Other AMSs including Cambodia, Lao PDR, Myanmar, and Brunei Darussalam have begun to explore EPR in principle. These nations have referenced EPR in national strategies or roadmaps, for example, in waste management or circular economy plans but do not yet have operational EPR schemes. Cambodia's circular economy strategy endorses the EPR concept, and Lao PDR's National Plastics Action Plan (2024) calls for voluntary EPR pilot programmes. Myanmar's waste management master plan (2018) proposed introducing EPR, and Brunei's economic blueprint hints at circular economy solutions. These are still at the policy discussion or pilot stage without concrete regulations yet (Kojima and Suwarno, 2025).

Table 2.6. Overview of the Status of Legislative Framework of EPR in ASEAN

	Thailand	Indonesia	Viet Nam	Singapore	Philippines
EPR for Packaging Framework	No form of EPR has been legally established. The Action Plan on Plastic Waste Management Phase II (2023–2027) includes developing an EPR system for packaging waste.	Law of Solid Waste Management (2008), supported by Ministerial Regulation 81/2012, has EPR framework for packaging. However, this framework has never been implemented.	Articles 54 and 55 of The Law on Environmental Protection (LEP), passed in 2020, are the legal framework for EPR.	Launched an EPR scheme for electronic waste in 2021 and plans to implement a deposit-refund system for beverage containers by mid-2025. Producers will add a refundable SGD 0.10 deposit on beverage bottles/cans.	Ecological Solid Waste Management Act of 2000 (Republic Act 9003) mandating waste segregation, recycling, and the creation of Barangay MRFs. It set a 25% waste diversion target and requires Local Government Units (LGUs) to develop solid waste management plans.
Legislative Status of Framework	A voluntary packaging EPR platform run by the Thailand Institute of Packaging and Recycling Management for Sustainable Environment (TIPMSE) is bringing together companies to pilot EPR approaches.	The Roadmap of Waste Reduction by Producer (Ministerial Regulation No. 75/2019) requires producers to develop waste roadmaps to 2030 (target items include: packaging, beverage containers, SUPs and SUP bags.	Incorporated EPR into its 2020 Law on Environmental Protection (effective 2022). covering packaging and products. Producers and importers must meet government-set recycling rate quotas for packaging waste or pay into the national Environmental Protection Fund as an alternative compliance route.	Resource Sustainability Act (RSA), 2019 is the core legislation that drives waste reduction and circular economy.	Extended Producer Responsibility Act of 2022 (Republic Act 11898) Targets start at 20% recovery of plastic output by end of 2023, rising to 40% by 2024, and eventually 80% by 2028. Enacted Extended Producer Responsibility Act of 2022.

Source: Authors modified from Johnson, 2022 and Kojima and Suwarno, 2025.

Chapter 3

Unlocking Support for Circular Businesses

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1. Trends and Drivers in the Circular Economy

1.1. Introduction: Riding the Circular Wave

Circular considerations are reshaping markets globally and in ASEAN, creating new opportunities that Philippine SMEs can leverage. Green practices are no longer just 'nice-to-have' -- they are becoming business imperatives as consumers, investors, and regulators push for eco-friendly solutions. Currently, at least 58 countries worldwide have adopted national CE strategies (Haswell et al, 2024), and ASEAN released a regional Circular Economy Framework in 2021 to guide member states' transitions. The ASEAN Circular Economy Business Alliance (ACEBA) was even launched in 2024 to mobilise business action on CE. These developments signal strong support for circular solutions and offer SMEs a timely chance to innovate.

Embracing circular economy principles such as reducing waste, reusing materials, recycling resources, can give SMEs a competitive edge. By aligning with circular trends, SMEs can cut costs through efficiency, meet supply chain requirements, access green financing, and appeal to a growing base of eco-conscious customers. In essence, circular economy is business advantage. SMEs that embrace circular practices can stay competitive and unlock new opportunities.

1.2 Trends and Drivers in the Circular Economy

ESG	Policy & regulatory	Global value chain/market	Consumer trends & behaviour	Consumer awareness & education	Digitalisation	Leveraging social media

Environmental, Social, and Governance (ESG) Demand

Large companies and investors globally are increasingly requiring ESG compliance in their supply chains. According to the ASEAN Secretariat Study on MSME Participation in the Circular Economy (2025), this trend is notable in the Philippines, Malaysia, and other ASEAN countries, where businesses are actively promoting circular practices to meet sustainability goals. More capital providers now prioritise sustainability and social impact alongside profits – a rise in *impact investing*. Dedicated funds have been established to support green and circular ventures, giving SMEs with sustainable business models greater access to a broader pool of financing opportunities. By integrating CE practices into their operations, SMEs naturally align with what ESG-conscious investors and corporate partners seek. For instance, an SME that implements low-waste processes or ethical sourcing gains a competitive edge when dealing with multinationals or export markets that prioritise sustainability. According to studies by Accenture (O'Reilly et al, 2022) and McKinsey (Doherty et al, 2023), companies that perform well in both profit and ESG **2.6 times** more likely to outperform their peers than those focused only on profit, suggesting that 'going green' can improve business performance.

Policy and Regulatory Push on Plastics

Governments are driving change – tightening rules on plastics – through regulations that create both challenges and opportunities for businesses. Many jurisdictions-- from the EU to China-- have banned single-use plastics, pushing industries toward alternatives (Food Innovation and Packaging Center, Chiang Mai University, 2021).

In the Philippines, legislators have proposed stricter rules on plastics – notably the **House Bill 9147** to regulate single-use plastics, with fees for bags and fines for non-compliance. More significantly, the Philippines enacted the **Extended Producer Responsibility (EPR) Act of 2022** (Republic Act 11898) which mandates large companies to take responsibility for the plastic packaging they put into the market. This law, which took effect in 2023, requires big manufacturers to collect and recycle a portion of their plastic output – 20% in the first year, rising by 10% each year to reach 80% by 2028. Notably, the EPR law covers even low-value, hard-to-recycle plastics like sachets. While SMEs (with assets below ₱100 million) are not *obligated* under the EPR law, this regulatory shift will likely cascade through supply chains. Large corporates will lean on their suppliers (**often SMEs**) to help fulfil EPR and other sustainability requirements. This creates openings for SMEs that innovate early can gain a competitive edge:

Table 3.1. Examples of Opportunities for SMEs, Aligning with Emerging Plastic Policies

CE Practices	Examples
Eco-friendly packaging	Compostable wrap, recycled materials content
Reuse and Refill systems	Returnable containers, providing refill kiosk
Collection and Recovery	Aggregation, local plastic recycling, initiate joint collection amongst SMEs
Compliance services	Auditing, traceability, supply chain mapping

Source: Authors.

In short, evolving policies (from plastic bans to EPR to stricter waste management standards) are increasing demand for circular alternatives – a clear opening for SMEs offering eco-friendly packaging, reusable products, recycling services, and other circular solutions.

Tips for SMEs:

- Track policy changes: Regularly follow national and regional regulations (e.g. plastic bag bans) to anticipate compliance and innovate early. Aligning with government standards or incentive programs can open market access and financial rewards.
- Engage large clients: Learn their sustainability goals to stay competitive and match demand.
- Work with policy think tanks: Partner with groups like ERIA to stay informed and help shape policy.
- Join public programs: Tap into green procurement, waste minimization, and cleaner production initiatives.

Global Value Chain Opportunities

Circular economy trends are not limited to local markets; they open export and B2B opportunities as well. Around the world, major markets are instituting sustainability requirements – which ASEAN SMEs can capitalise on. The EU, for example, implemented regulations such as its 2020 directive on single-use plastics that drive demand for sustainable products and materials. Here are real-world examples ASEAN SMEs exploring global chain:

Biodegradable Packaging from Agricultural Waste:
Vietnamese companies have become major exporters of bagasse-based biodegradable food containers to Europe (Food Innovation and Packaging Center, Chiang Mai University, 2021). Similarly, ASEAN agricultural waste (like rice husks, coconut coir, etc.) is being sought by manufacturers in China and beyond as feedstock for bio-based packaging (Food Innovation and Packaging Center, Chiang Mai University, 2021).

Philippines R&D for global sustainability:
Collaboration between ASEAN SMEs and universities also has accelerated innovation in biomaterials and recycling technologies (Food Innovation and Packaging Center, Chiang Mai University, 2021). The Philippines itself has ongoing R&D into novel materials-- for instance, researchers developed food containers from corn husk and even chicken feathers as plastic alternatives (Food Innovation and Packaging Center, Chiang Mai University, 2021).

These innovations position SMEs to serve rising global demand for eco-friendly materials. By tapping regional networks and collaborations (e.g. ASEAN science and technology partnerships), Philippine enterprises can adopt and scale such innovations.

In short, 'going circular' can help SMEs access international markets that are increasingly closed to unsustainable goods. A small business that meets high recycling standards or uses renewable inputs might become a preferred supplier to a multinational that has public sustainability commitments.

SMEs in the Philippines and ASEAN that adopt circular practices can gain access to international markets.

Tips for SMEs:

- Partner with R&D institutions (e.g. local universities) to explore material innovation.
- Join regional innovation networks, such as ASEAN or industry associations.
- Check sustainability standards for potential export markets (e.g. Japan) to align packaging and sourcing.

Consumer Trends and Behaviour Shifts

Consumers are also driving the circular transition – a growing segment of customers actively seek eco-friendly products and choosing brands that align with their values on sustainability. Today's consumers (especially younger generations) are more likely to favour businesses that demonstrate environmental responsibility. In the Philippines and across ASEAN, awareness of issues like plastic pollution and climate change has been amplified by media and education. This is pushing even big retailers to stock greener options, creating pressure and opportunities for SMEs to offer sustainable choices.

There is a budding refill and reuse culture emerging as an antidote to the long-dominant 'sachet culture.' The Philippines' so-called 'sachet economy' -- where millions rely on single-use sachets for daily necessities-- has contributed to a massive plastic waste problem. A report by GAIA (Liamzon et al, 2020) estimated that Filipinos use around 164 million plastic sachets per day, most of which end up littering communities and waterways since they have virtually no recycling value. In response, entrepreneurs and community initiatives are introducing refill stations for shampoo and detergents, reusable container programmes for food, and alternative packaging that can be returned or composted. Before sachets dominated, Break Free From Plastic (2025) noted that Filipino consumers practiced traditional refill culture – bringing reusable containers to sari-sari stores. Reuse advocates aim to revive this 'tingi' heritage to reduce reliance on disposables (Break Free From Plastic, 2025).

Real Life Case: Reversing the Sachet Economy

Greenpeace Philippines's 'Kuha sa Tingi' project has installed refill stations (for shampoo, detergent, etc.) in sari-sari stores across Metro Manila. Early results include saving over 47,000 sachets, increasing store-owner income by 15%, and consumer savings of 201%.

While the convenience and low cost of sachets won't disappear overnight, consumer attitudes are slowly shifting as people recognise the environmental toll (Ledesma, 2024). Filipino SMEs can ride this shift by:

- Pioneering refill models (for example, selling products in bulk or establishing container return schemes) and developing products that cater to sustainability without sacrificing affordability.
- Providing affordable alternatives to a *'sachet-free'* or single-use option, it chips away at the old habit and educates consumers about reuse.

Consumer Awareness and Education

Consumer awareness and education are amongst powerful drivers for accelerating the adoption of circular economy. Though trends on green consumerism are on the rise, SMEs should not assume customers know why a circular product is better-- they often need to be informed and inspired. When consumers understand the environmental, social, and economic benefits of a few circular approaches, such as reduce, reuse, refill, repair, and recycling, they are more likely to support SMEs that integrate these into their business operations.

Effective strategies include transparent communication, e.g. labelling a product as 'made from 100% recycled material' or 'biodegradable packaging' (Sustainability Directory, 2025), storytelling about the local impacts of waste (connecting purchases to positive change), and even involving customers in take-back or recycling programmes (which increases their loyalty). Many Filipino social enterprises have successfully built their brand around community and environment, turning sustainability into a story that consumers want to be part of.

Digitalisation

Technology can help SMEs shift toward circular practices more affordably and effectively. From mobile apps to 3D printing, digital platforms make it easier for businesses to reduce waste, track materials, and meet evolving regulations like EPR (ASEAN, 2025). In ASEAN, affordable tech (like simple mobile apps connecting waste collectors to recyclers, or e-commerce platforms for second-hand goods) helps overcome infrastructure gaps and creates new circular marketplaces. For instance, cloud-based traceability systems allow an SME to prove to its buyers that a product is made from recycled material or is itself recyclable – adding value and credibility.

Digitalisation for SMEs: Practical strategies & examples:

- **Partnering with Reuse/Recycling systems or Refill Models**
  - SMEs can join or pilot with refill systems-like platform to reduce single-use packaging.
  - Partner with local tech-enabled waste collectors or platforms that digitise waste logistics.
  - **Siklus (Indonesia)** has a website where customers can order refill essentials like body soap, or shampoos into reusable containers-small vendors can participate in distribution.
- **Using 3D Printing and Digital Fabrication**
  - **What SMEs can do:** Use 3D printing to reduce material waste in packaging or product development. This also allows on-demand production, cutting overstock.
  - **Karta Philippines,** a startup based in Davao, uses **3D printing with recycled plastic filament** to produce sustainable product packaging and promotional materials. This reduces virgin plastic use and enables customisation for small batch runs.
- **Adopting Digital Traceability Tools**
  - **What SMEs can do:** Use QR codes, apps, or cloud-based systems to track recycled content or material origin, especially for export or B2B customers.
  - Some SMEs in Thailand and Viet Nam are using **blockchain or cloud-based platforms** to show recycled content in their textiles or packaging – boosting trust and meeting importer sustainability requirements.

Leveraging Social Media and Culture

In the Philippines, social media is a powerful force in shaping trends. Sustainability has gained traction online-- from zero-waste influencers demonstrating eco-lifestyle tips, to viral campaigns against ocean plastic. SMEs can leverage platforms like Facebook, Instagram, and TikTok to market their circular initiatives in an *accessible, relatable way.* A study by De La Salle University confirms that social media posts in the Philippines **can significantly influence consumer behaviour** toward reducing plastic consumption, especially when the content is actionable and health-focused (Rapada, 2021). Another example is to show behind-the-scenes video of how your business transforms old plastic into new products can spark interest and trust.

Filipino culture's strong community orientation can also be tapped: movements like community recycling drives or upcycling workshops resonate with the spirit of *bayanihan*; communal unity (Gonzalez, (2023). Aligning circular business practices with local values-- such as thriftiness (e.g. *'pti-pti'* or making the most out of resources) or caring for future generations – can make the message even more powerful.

Real Life Case: Viral Environmental Campaigns and Activism

- Facebook groups like Buhay Zero Waste (with thousands of members) are hubs where Filipinos actively share zero-waste hacks, eco-lifestyle tips, and plastic avoidance strategies – peer sharing builds awareness and action.
- The Subic Bay coastal cleanup, promoted through YouTube and Facebook by vlogger Real Talk Darbs, garnered over 2.6 million views, showing how online influencers can mobilize large audiences.
- Filipino eco-fashion brands (e.g. Rags2Riches and Proudrace) frequently share behind-the-scenes videos of upcycling textile waste, tapping into Filipino pride in craftsmanship and the cultural value of 'pti pti' or resourcefulness.

Key Takeaway for SMEs:

Taken together, these trends– ESG pressures, policy changes, tech innovations, global market shifts, and evolving consumer behaviour – are driving the business case for circular economy solutions. For SMEs, the message is clear: adapting to these trends is not just good for the planet, but increasingly essential for staying competitive and unlocking new growth.

1.3 Emerging Circular Business Models for SMEs

Even the way businesses deliver value is changing in the circular economy. Traditional business models that rely on selling more products without regard for end-of-life are being challenged. Here are some emerging circular business models that SMEs can adopt:

Product-as-a-Service (PaaS)

This model shifts the concept of ownership. Instead of selling a product outright, the business provides it as a service, often through leasing/rental, or subscription. The company retains ownership and responsibility for maintenance, repair, and end-of-life handling – incentivising them to create durable, long-lasting products (Circularity S.R.L., n.d.) (KPMG LLP, 2024).

Real Life Case: Library of Things

the Vancouver Tool Library and Toronto's Sharing Depot is a community-based model where tools and household items are loaned instead of sold. It helps reduce overall consumption and address underuse of equipment like power drills or ladders.

Why it works:

- Customers get reliable, maintained products without large upfront costs.
- Businesses earn recurring revenue while controlling the lifespan and end-of-life.
- Waste is reduced as products are designed for reuse, repair, or recycling.

Resource/Asset Sharing

(Ziskind, Guna, 2017) (Hong et al, 2014) (Growth Market Reports, 2025)

Well known in consumer sectors, this model can be applied by SMEs in various contexts. Resource sharing enables multiple users to access and utilise the same resources, significantly reducing idle time, underutilisation, and unnecessary purchases. This model:

- Maximises utilisation of tools, vehicles, spaces, or equipment
- Reduces expenditure for SMEs
- Supports community-based access to resources
- Reduces waste and other environmental footprints

The result is better utilisation rates of products (fewer idle resources sitting around) and cost savings for participants. SMEs that build sharing platforms or consortia can monetise coordination while reducing overall consumption. An example might be a local tool library or equipment rental service--multiple small businesses share access to tools/machinery instead of each owning a rarely used unit. Digital platforms can facilitate this matchmaking.

- Mobile apps for booking and tracking shared assets
- Online directories or maps to find local shared resources
- QR code tracking for tool check-ins and checkouts
- Scheduling systems (e.g. SMEs in rural areas could use WhatsApp group or simple website to schedule shared use of a delivery truck or water pump.

Table 3.2. Key Considerations for SMEs in Adopting Resource Sharing

Trust and Governance • Establish clear rules for asset use, maintenance, and liability in case of misuse and damage. • Transparency in cost-sharing and conflict resolution mechanisms.	**Technology and Accessibility** • Technology can help in scheduling, monitoring, and tracking use. • Chosen technology should match users' digital literacy and infrastructure level (e.g. WhatsApp, etc.).
Legal Frameworks • Local regulations may affect how assets can be shared across businesses. • Consider service agreements to protect users in case of accidents or damage.	**Scalability and Community Engagement** • Start small and expand gradually considering the capacity and resource. • Leverage local networks (e.g. associations) to scale and coordination.
Sustainability/Circular Economy Outcomes • Demonstrating environmental impacts strengthen credibility with customers, partners, and funders. • For instance, SMEs can measure plastic waste reductions, maximise resource consumption, or avoid emissions.	

Source: Freken and Schor, 2019; OECD, 2019; Ellen MacArthur Foundation, 2020.

Instead of buying a machine that sits unused most of the time, why not share it?

Refill & Reuse: Four Business-to-Consumer Modalities

(Ellen MacArthur Foundation, 2020) (Ellen MacArthur Foundation, 2022)

Reuse models for SMEs looking to reduce single-use plastics while keeping products and packaging in circulation. Based on the Ellen MacArthur Foundation, there are four primary B2C reuse models. These four business-to-consumer (B2C) models offer flexible ways to implement reuse in the Philippine context, each with distinct logistics and consumer interaction points.

Refill at Home

- **How it works:** Consumers buy reusable containers and refill them at home using bulk concentrates or refills.
- **Benefits:** No infrastructure needed; empowers households to reduce plastics; cuts packaging costs and plastic footprint.
- **SMEs opportunities:** Sells products in highly concentrated formats (e.g. condiments, shampoo, cleaning liquids).
- **Example:** Families purchasing detergent concentrates and refilling their own bottles at home reduces sachet use and encourages reuse through cost savings and convenience.

Refill on the Go

- **How it works:** Users refill reusable containers at retail hubs or refill stations (e.g. sari-sari stores, malls).
- **Benefits:** Accessible, builds visibility and trust, and convenient in daily routines (habit change with minimal friction), reduces sachets and single-use packaging.
- **SMEs opportunities:** Install mini refill stations in partner stores (e.g. *sari-sari stores*), offer loyalty stamps/incentives for returning customers.
- **Example:** The Kuha sa Tingi refill hubs installed in neighbourhood stores enable consumers to refill shampoo or detergent – preventing sachets from entering the waste stream.

Return from Home

- **How it works:** Businesses deliver products in reusable packaging, which consumers rinse and leave for pick-up at their home later.
- **Benefits:** Smooth user experience; SMEs controls container/packaging life cycle; data collection easier-enabling better tracking and feedback.
- **SMEs Opportunities:** QR-code tracking or other loyalty programmes, pair with subscription services for water, oil, or groceries (tap-in with essential goods).
- **Example:** An SME offering home-delivered cooking oil in branded bulk jugs, collecting them later for reuse.

Return on the Go

- **How it works:** Consumers buy a product in reusable packaging and return it on the go at designated drop-off points.
- **Benefits:** encourages repeat visits, promote community-level participation, combines convenience with broader reach and promotes circular thinking.
- **SMEs opportunities:** Create a take-back programme in collaboration with retailers, offer rebates for returned containers.
- **Example:** Pharmacies or grocery chains offering reusable containers for products like vinegar or sauces, and hosting return bins for empty containers.

Each modality encourages longer product lifecycles, reduces single-use packaging, and builds customer loyalty – making them powerful tools for SMEs to embed circularity in everyday consumption. By understanding and applying these modalities, SMEs can create locally relevant refill/reuse models that match Philippine household behaviours and sustainability goals.

These reuse models are well-defined in Ellen MacArthur Foundation guidelines and have been shown to significantly cut plastic pollution, save costs, and leverage existing consumer habits (Ellen MacArthur Foundation, 2025). Implementing them strategically can help SMEs lead the way in the emerging refill culture in the Philippines.

Reuse, Repair, Refurbish, and Remanufacturing

This group of circular business models focuses on extending the life of products, a principle grounded in the idea of maintaining/prolong, reuse/redistribute, refurbish, and remanufacture, as defined by the Ellen MacArthur Foundation's (2019) circular economy framework.

Table 3.3. Modalities of Product in a Circular Economy

Modality	Description	SME Example
Maintain / Prolong	Regular service and upkeep to extend product life.	Appliance repair cafés that offer tune-ups and small fixes to household gadgets.
Reuse / Redistribute	Selling or leasing used items for continued use.	Furniture shops selling 'pre-loved' refurbished items with warranties.
Refurbish	Updating, cleaning, and repairing used products without full rebuilding.	Gadget refurbishers who clean, repair, test, pack, and resell electronics.
Remanufacture	Full disassembly and rebuild to factory specifications with warranties.	Regenerating industrial components like auto parts or printer cartridges to 'as-new' condition.

Source: Ellen MacArthur Foundation, 2019.

Extending product life significantly reduces waste, conserves raw materials, and decreases environmental impacts by avoiding the need to produce new items. For SMEs, these models open new income streams – such as service fees, resale, or leasing – while building customer trust through warranties and transparency. Although technical skill and customer trust are crucial, these SMEs directly reduce waste and production impacts (Repair Café International Foundation, n.d.). By embracing circular design – with easier disassembly, modular parts, and serviceable materials – SMEs can simplify repair, refurbishment, and remanufacturing paths.

In the Philippines, for instance, there's growing interest in appliance repair cafes and gadget refurbishes as consumers look to save money and reduce waste. Though there are no standalone Repair Cafes operating currently in the Philippines, community-led, one-off Repair Cafe–style events and DIY repair workshops have been emerging across Metro Manila and other cities, indicating a grassroots trend (The Restart Project, 2024).

circular economy, **one company's waste becomes another's raw material:** waste-as-resource or industrial symbiosis. SMEs can innovate by using recycled or recovered inputs in their production, or by collecting and processing waste streams into new products. This includes everything from turning agricultural residues into packaging, to converting plastic waste into furniture, to making paper out of textile scraps. It also encompasses businesses that act as specialised recyclers – gathering waste (plastic, glass, metal, organics) and processing it into feedstock that manufacturers will buy.

Real Life Case: Waste-as-Resource

Green Antz uses waste plastic as an ingredient in eco-bricks and construction materials – literally turning trash into a valuable resource for the building industry.

By viewing 'waste as resource,' SMEs can reduce raw material costs and often create unique story-driven products. For example, a Filipino startup uses discarded sachets and wrappers to produce durable handbags and wallets, combining social appeal with waste reduction.

Each of these models challenges the linear norm and can be adapted to different industries. Importantly, they often overlap; an SME might employ several at once (e.g. leasing products that are themselves made of recycled material and offering to take them back for remanufacturing).

When brainstorming your own circular business model, consider the key question: How can we deliver our product/service in a way that designs out waste and keeps materials in use? This might mean changing the revenue model, forging partnerships to source or supply secondary materials, or building in return loops for your products.

Case Studies: Circular Economy in Action

Below, we highlight a few SMEs from the Philippines (and the ASEAN region) that have successfully adopted circular practices. These case studies show that circular economy models are not just theory – they are already working on the ground, creating both impact and profit.

Green Antz Builders (Philippines) – From Plastic Waste to Eco-Bricks (Nassereddine, 2024)
Green Antz is a Philippine social enterprise that has emerged as a transformative force in waste management and the circular economy. Founded in 2013, Green Antz pioneered the production of eco-bricks – durable building bricks and construction materials made by combining shredded plastic waste with cement. In a country where plastic pollution is dire, Green Antz's model creates value from what was once seen as worthless waste.

- **Tackling the Sachet Problem:** The Philippines, with just 1.4% of the world's population, contributes over one-third of global marine plastic waste. A major culprit is the ubiquitous multi-layer sachet. Green Antz specifically targets these 'non recyclables' (sachets, sachet packs, thin plastics) as inputs for their eco-bricks. By developing a viable use for sachet waste, they address a key gap in the recycling value chain.
- **Scaling Collection and Impact:** Green Antz has built an extensive network of collection partnerships. They've joined forces with local governments, schools, corporations, and communities to set up collection points for plastic waste. Through strategic alliances (e.g. with Rotary International and Shell Philippines), they aim to recycle 25,000 tons of plastic waste annually, targeting a reduction of national plastic waste by 1% by 2025. Their results are impressive – in Q1 2023 alone, Green Antz collected 500,000 kg of plastic waste, an 829% year-on-year increase. That quarter's haul kept the equivalent of 83 million plastic utensils or 100 million plastic bags out of landfills and oceans.
- **Products and Use Cases:** The collected plastics are processed into 100% recycled plastic 'eco-lumber' and eco-bricks. These materials are used for fences, decking, and even infrastructure. A tangible example of impact: in one project, Green Antz partnered with a school where students helped collect 9,000 kg of plastic; those plastics were then 'ingeniously repurposed' to construct a school canteen, pathways, and a clock tower on the campus. This not only provided needed facilities but also educated the next generation about circularity.
- **Business Model and Revenue:** Green Antz generates revenue by selling its eco-bricks and construction materials to the building industry. It also offers waste management services to companies – essentially helping firms comply with waste reduction targets by taking their plastic and giving it a second life. In the era of the EPR law, Green Antz's role became even more crucial: they partner with major corporations (like P&G, Colgate-Palmolive, etc.) to collect and recycle the plastic these companies produce, thereby assisting them in meeting EPR mandates. In return, Green Antz can earn 'plastic credits' and secure funding from these corporations or impact investors for its scaling efforts.

- **Support and Investment:** The company's success and growth potential have attracted support from impact investors. Notably, Arowana Impact Capital, a sustainability-focused investment firm, provided strategic and financial backing to Green Antz. This helped Green Antz professionalise operations and prepare to expand beyond the Philippines to other ASEAN markets where plastic waste is abundant and construction needs are growing.

Why it Matters?

Green Antz exemplifies a circular SME that creates environmental, social, and economic value simultaneously. It has stimulated job creation (through its collection network and brick production), raised awareness on plastic pollution, and delivered a profitable product by substituting raw materials with waste. Green Antz shows that even a stubborn problem like sachet waste can be turned into an opportunity with innovation and partnerships. It also highlights how aligning with national policy (like EPR) can open business opportunities – being part of the solution positions a company to receive funding and support.

The Plastic Flamingo 'The Plaf' (Philippines) – Upcycling Ocean Plastics into Lumber (Portugal, A, 2021)

The Plastic Flamingo, known as '**The Plaf**,' is a Manila-based social enterprise (founded in 2018 by a French Filipino team) focused on preventing marine plastic pollution. Their mission is to collect hard-to-recycle plastics that clog rivers and oceans and upcycle them into useful construction materials – mainly 'eco-lumber' planks and posts

- **Collection Network:** The Plaf has developed an efficient waste management network with over 150 drop-off points in Metro Manila and surrounding areas. They partner with barangays (local districts), schools, malls, and businesses to serve as collection sites where citizens can bring their plastic waste. By 2021, The Plaf had collected over 100 tons of plastic waste – material that would likely have otherwise polluted waterways or been burned. Approximately 80% of global ocean plastic comes from Asian rivers, with the Philippines alone contributing a third of that. The Plaf's community-based collection is directly targeting this leakage.
- **Innovation – Turning Plastic to Planks:** At The Plaf's facility in Muntinlupa, collected plastics (from bottles to sachets and wrappers) are sorted and then shredded and fed into an extrusion machine. The output is solid plastic lumber – posts and planks – which are robust, rot-proof, and can substitute wood. These 'eco-lumber' planks have been used for fencing, decking, outdoor furniture, and even to build emergency shelters for disaster relief. By providing a high-value end product for low-value waste, The Plaf creates an economic incentive for collection and keeps plastic in circulation.

- **Dual Impact – Waste and Housing:** The founders of The Plaf were motivated not only by the overflowing plastic in the environment but also by the lack of affordable housing materials. Their planks 'hit two birds with one stone' – addressing pollution while providing materials for shelters in vulnerable communities. This has attracted collaborations with NGOs and government agencies interested in both environmental protection and social development (housing). It's a great example of how a circular solution can have multiple co-benefits.
- **Challenges and Triumphs:** Working with dirty, mixed plastic waste is technically challenging – but The Plaf's success proves it's feasible. They include flexible plastics (sachets, films) in their process, which traditionally have little recycling value. By doing so, they fill a critical gap. During the COVID-19 pandemic, plastic waste (PPE, packaging) surged, but enterprises like The Plaf provided a way to handle some of that additional waste responsibly. They demonstrate that an SME can adapt and persevere even amid external crises.
- **Community Engagement:** The Plaf emphasises education – they don't just collect waste; they also run awareness campaigns, encouraging people to segregate and donate their plastics rather than dump them. The cheerful 'pink flamingo' branding is intentionally unique and hopeful, aiming to inspire action rather than doom and gloom. The founders chose the flamingo symbol to stand out and make sustainability cool and approachable (a pink flamingo is eye-catching and not typically associated with waste, which sparks curiosity). This savvy use of branding and storytelling has helped them gain media attention, volunteer support, and customers for their planks.

Why it Matters?

The Plastic Flamingo shows how a startup can address a local manifestation of a global issue (ocean plastic) with a solution tailored to the community's needs. The Plaf's journey highlights the importance of innovation (developing a new material), partnerships (150+ collection points didn't build themselves – it required outreach and trust), and branding. It also underscores that difficult materials like sachets are not impossible to recycle – it just takes creativity and persistence to find the right product and process. By turning trash into something tangible and valuable, The Plaf makes the circular economy concept very real and relatable.

These case studies are just a few of many across ASEAN. In fact, a recent ASEAN survey documented over 60 circular economy business cases ranging from agribusiness valorising waste to tech startups enabling product sharing (Nassereddine, 2024). The key takeaway is that circular economy principles can be applied by small businesses in diverse sectors – and often the innovation leads to new support and funding. Green Antz got impact investment, The Plaf partnered with global NGOs-- all because their models deliver not only profits, but also environmental and social returns that stakeholders value

As you think about your own business or project, consider which elements from these examples could apply: Do you have waste that could become a product? Is there a way to involve your community or customers in the solution? Can you tap into an emerging regulation or trend as these pioneers did? Use these stories as inspiration and proof that circular SMEs can thrive.

Exercise 2: Circular Business Model Canvas Development

A useful tool is the Circular/Sustainable Business Model Canvas, which is a twist on the traditional business model canvas that highlights circular opportunities.

It encourages thinking about things like: what happens to your product after use, how you can obtain resources sustainably or locally (maybe waste from another process), and what new customer segments might value the sustainability aspect.

Objective: Use a modified Business Model Canvas to integrate circular principles into a business model and identify areas for innovation.

1. **Canvas Template:** Get a Circular Business Model Canvas template (similar to the traditional canvas but with prompts for circularity). If a special template is not available, use the regular Business Model Canvas with an overlay question: how to make each of these more circular?

2. **Select a Business (or use previous scenario):** You can use the same business from Exercise 1 or a new one. If you did Exercise 1, it naturally feeds into this – you can develop the idea you prioritised.

3. **Fill Out the Canvas with Circularity in Mind:**
   - **Value Proposition:** What is the sustainability or circular value you offer? (e.g. product lasts twice as long, uses recycled inputs/materials, saves customer money through reuse, reduces waste for customer, etc.)
   - **Customer Relationships:** How do you engage and build trust with customers over time? How will you educate or involve them in the circular model (maybe customers participate by returning items or joining a subscription instead of one-time purchase)? Builds royalty, supports impact storytelling, strengthens funding case.
   - **Customer Segments:** Who are your target customers? Do they care about sustainability? Distinct groups of customers, each with specific needs.
   - **Channels:** Will you use any innovative distribution (e.g. delivering in reusable containers, or an online platform for sharing.)

- **Revenue Streams:** Besides traditional sales, can you earn via subscriptions, leasing fees, pay-per-use, or by selling post-use materials?
  (e.g. some companies sell the collected used products as inputs to recyclers – that's another revenue stream, on top of selling the main products/services.)
- **Key Activities:** What activities are crucial for circularity?
  (e.g. collecting used products, refurbishing, recycling operations, designing eco-products, etc., in addition to standard ops.)
- **Key Resources:** Identify resources needed, including any secondary materials (waste inputs), such as app for tracking, expertise in material science, etc.
- **Key Partners:** List partners that will enable circular flows. This could be suppliers of recycled materials, partners who take your by-products, logistics partners for reverse logistics (bringing stuff back from customers), financiers, or government bodies for support.
- **Cost Structure:** Note any cost implications of circular activities (maybe higher upfront cost for better materials, cost of take-back logistics, etc.) and where savings occur (reduced raw material purchase because you reuse materials, etc.).
- **Negative Externalities:** Negative imposed from business activity affecting third parties to society or the environment that are not directly paid for by the business or its customers. This could identify risks & new service opportunities; foster credibility; align with policy.
- **Positive Externalities:** Benefits to society or the environment that go beyond what the business and its customers directly gain. Builds purpose; supports funding; deepens impact.

4. **Ideate to Fill Gaps:** As you fill the canvas, you might find areas that need more innovation. For instance, 'We want to take back packaging, but how to incentivise customers?' That might add an activity (deposit refund system) and a cost (refund amounts) but also strengthen relationships. Discuss these and incorporate solutions.

The exercise helps internalise that a circular business model is holistic – it's not just one green product, it's rethinking how you deliver value and capture value. The canvas is a handy one-page view to ensure you've considered the enablers needed (like partners and resources) and the financial equation.

Table 3.4. Circular Business Model Canvas Template

KEY PARTNERSHIPS	KEY ACTIVITIES KEY RESOURCES	VALUE PROPOSITIONS	CUSTOMER RELATIONSHIPS CHANNELS	CUSTOMER SEGMENTS
COST STRUCTURE			REVENUE STREAMS	
NEGATIVE EXTERNALITIES			POSITIVE EXTERNALITIES	

Table 3.5. Circular Business Model Canvas Example [1]

KEY PARTNERSHIPS

- Barangay councils and LGUs (community outreach, waste policy support)
- Local refillery suppliers (e.g. Humble Market, Refillables MNL)
- Waste collectors/recyclers (e.g. The Plastic Flamingo / Trash Panda)
- Youth orgs, schools, or NGOs for community drives
- Microfinance or small business support programmes

KEY ACTIVITIES

- Setting up and managing refill stations
- Running take-back programme for plastics
- Partnering with recyclers (e.g. The Plastic Flamingo, Green Antz)
- Staff training on circularity and customer interaction
- Marketing circular features on social media

KEY RESOURCES

- Refill dispensers for rice, oil, soaps, etc.
- Cleaning and storage containers for reusables
- Recyclable product stock (from eco suppliers)
- Staff and volunteers for sorting/cleaning collected plastics
- Partnerships with local recycling

VALUE PROPOSITIONS

- Offers affordable everyday goods with reduced plastic packaging.
- Introduces refill stations for essentials (rice, cooking oil, shampoo, cleaning agents).
- Accepts used plastic sachets/bottles from customers for discounts.
- Encourages plastic-free options (e.g. bamboo toothbrushes, reusable bags).
- Builds reputation as a sustainable neighbourhood store.

CUSTOMER RELATIONSHIPS

- Loyalty rewards: e.g. bring 10 empty sachets = ₱5 off next purchase
- Personal rapport with regular customers
- Workshops on 'Refill & Reuse' practices
- Gamified app or physical stamp cards to track

CHANNELS

- In-store engagement through signage and staff
- Facebook/Instagram for local promos, plastic collection drives
- Community-based events (Barangay Day, Clean-Up Drives)
- Collaboration with Eco-Warriors PH or local NGOs for outreach

CUSTOMER SEGMENTS

- Budget-conscious urban residents (barangays in Metro Manila)
- Youth and families who are increasingly eco-aware
- Local zero-waste communities
- Local government units (LGUs) looking to pilot circular models in barangays.

COST STRUCTURE

- Initial setup for refill equipment & bulk inventory
- Cost of staff training & educational materials
- Logistics for collected plastic sorting & transfer
- Cost savings: Reduced packaging waste = less disposal cost, Bulk buying from refill suppliers = cheaper over time, Customer loyalty increases repeat sales

REVENUE STREAMS

- Retail sales (essential goods, daily items)
- Sale of refillable products (household cleaners, shampoo, etc.)
- Bulk-purchase discounts from zero-waste product suppliers
- Potential revenue from recyclables (collected plastics sold to recyclers)
- Donations/grants from LGUs or sustainability partners

NEGATIVE EXTERNALITIES

- Displacement of informal workers: Traditional waste pickers who rely on SUP collection may lose income if plastic is reduced, unless integrated into EcoSari' new model.
- Hygiene: If refill stations are not properly managed, there's a risk of contamination in the product.

POSITIVE EXTERNALITIES

- Cutting down SUP, it helps reduce clogging waterways and flooding risk
- Reduced plastic burning (open burning), the low-income neighbourhoods lead to better air quality and fewer respiratory illness
- Partnership with local partners can create new green jobs in logistics, cleaning, and distribution.

Source: Kusnadi, 2025.

[1] **Concept:** Ecosari, a sari-sari store chain in Metro Manila that sells everyday goods (snacks, household items, beverages) – but transitions to a circular model by minimising plastic waste through reuse, refill, and partnerships.

2. Accessing Funding and Support for Circular SMEs

2.1. The Funding Gaps and Opportunities for Circular SMEs

It is important to acknowledge that accessing capital is challenging for most business, especially SMEs. The global financing gap for SMEs is enormous-- according to the International Finance Corporation (IFC), it is estimated that the MSME finance gap now stands at 5.7 trillion US dollars. In 2020, the International Finance Corporation (IFC) estimates that the SME financing gap in the Philippines is approximately USD 221 billion, equivalent to about 76% of GDP – a clear signal that traditional finance is not meeting demand. This underscores the need for alternative financing models or policy changes to better support SMEs.

Circular SMEs face additional hurdles due to their asset-light nature, limited collateral, and lack of credit history, which lead banks to view them as high-risk and often unwilling to lend without high interest rates or personal guarantees (Aldaba, 2011). However, as circular awareness is growing, financial institutions and policymakers are beginning to recognise the unique needs of circular businesses. Funds emerge in the Philippines and globally through new initiatives such as green financing instruments, blended finance, EPR, and impact investment. Entrepreneurs can better prepare to navigate themselves strategically and advocate for supportive ecosystems that reward sustainability and innovation by understanding these financial realities early on.

For you as an entrepreneur, think about what funding challenges/risk are you aware of to address them head-on in your strategy and pitches (e.g. 'Yes, we don't have typical collateral, but here's how we will secure your loan...').

Circular SMEs often need external funding and support to develop innovative solutions and scale their impact. Fortunately, there is a growing range of funding sources tailored to sustainability and circular economy initiatives. This section outlines the **types of funding** available, **pathways to secure funding**, how to **prepare strong funding proposals**, what funders look for in circular economy projects, and the importance of **avoiding greenwashing** to maintain trust in the circular market.

2.2. Types of Funding for Circular Economy Initiatives

When seeking funding, it is important to choose the type of financing that best aligns with your business needs and to be informed about the diverse range of available options:

Accelerators and Incubators

These programmes are not traditional funding but often provide small seed funding or prize money, plus mentorship, training, and investor connections. Participating in a circular economy accelerator or incubators can greatly improve your business model and readiness for larger funding. Such programmes might provide a cash grant, capacity building, co-working space, or link you to pilot funding. The experience, knowledge, and networks gained through this programme can strengthen your credibility and better position to secure larger investments in the future.

While an incubator supports early-stage ideas or startups (i.e., concept or prototype stage), the accelerator supports growth-stage companies with validated products/services. Both incubators and accelerators de-risk innovation for investors by strengthening business fundamental, testing market viability, demonstrating impact, and connecting entrepreneurs with capital partners.

Table 3.6. Accelerator vs Incubator

Accelerator Program	Incubator Program
Goal: to scale their impact or reach investment-readiness rapidly.	Goal: to help entrepreneurs validate their ideas and develop viable business models.
Key features: • Help refine business models, scale operations, and prepare fundraising • Shorter, intensive programme (3-6 months) • Investment readiness training, market access/investor matching, pitching coach, corporate or government networking	Key features: • Focus on idea development or proof of concept • Usually, 6-24 months period • Mentoring, technical assistance, legal/regulatory guidance • Seed funding or grants

Source: Authors.

Grants

Non-repayable funds from governments, international agencies, or foundations to support projects with environmental or social benefits. Grants are ideal for early-stage pilots or community projects. In the Philippines, for example, programmes like the EU's Switch-Asia and the EU Green Economy Partnership with the Philippines (GEPP) – Green LGUs project, have provided grants to SMEs reducing plastic waste. The Department of Science and Technology (DOST) and Department of Trade and Industry (DTI) also offer grants or equipment support for sustainable innovations. Pros: You don't give up equity or debt and often gain technical assistance. Cons: Highly competitive application process and usually short-term funding.

Angel Investors

Wealthy individuals or successful entrepreneurs who invest their personal funds in startups. Angels can be a great source of early-stage capital and often offer mentorship. In the Philippines, groups like the Manila Angel Investors Network (MAIN) have shown increasing interest in green and ESG-oriented startups. Approaching an angel investor requires a solid pitch and business plan, but they may be more flexible and patient than banks in expecting returns.

Green Finance Products from Banks

Mainstream banks in the Philippines and ASEAN are introducing green financing products for SMEs. These include specialised loans or credit lines for projects with environmental benefits. Mainstream banks in the Philippines and ASEAN are starting to offer green financing products for SMEs, such as loans for solar panels, energy-efficient equipment, or recycling facilities. The Bangko Sentral ng Pilipinas (BSP) has issued sustainable finance guidelines and even incentives for banks to increase green lending. Local banks like Landbank and DBP have special credit lines (e.g. Landbank's Climate SMART programme) for green projects. Green loans may offer lower interest or longer terms if your project delivers clear environmental benefits. Always ensure you can meet the repayment schedule, as with any loan.

Impact Investors and Venture Capital

Impact investment funds and socially minded venture capital provide equity (or sometimes debt) to businesses that promise environmental/social returns alongside profit. In Southeast Asia, dedicated climate and circular economy funds have emerged, and investors are looking for ventures that help solve plastic pollution, renewable energy gaps, etc. These investors can bring not only capital but also expertise and networks. It's reported that companies with strong environmental performance often enjoy better long-term financial performance, debunking the myth of a 'green premium' (UNDP Philippines News, 2025). However, be prepared: evaluating your business model, revenue potential, and impact metrics.

Concessional Loans

Loans with below-market interest rates or lenient terms, usually from government or development institutions, to encourage certain activities. For example, the Philippine government (through DTI's SB Corp or other agencies) may offer soft loans for SMEs adopting renewable energy or cleaner production. International institutions like the Asian Development Bank (ADB) have also piloted financing for 'plastic circularity' ventures in the region-- by meeting certain sustainability criteria (say, showing your process cuts emissions or creates recycling jobs), you might qualify for such grants or concessional loans. These loans can be game changers at early stages because they ease the financial burden, but they often require meeting specific sustainability criteria to qualify.

Real Life Case: Impact Investing

Green Antz, a Philippine eco-brick company converting plastic waste to construction materials, attracted an impact investment in 2022 from Arowana Impact Capital to accelerate its growth across the Philippines and ASEAN.

Crowdfunding and Community Investment

Raising small amounts of money from a large number of people via online platforms. Some Filipino social enterprises have successfully run crowdfunding campaigns by pitching their environmental mission to the public. This not only brings in funds but also builds a community of supporters (and doubles as marketing). Crowdfunding works best if you have a compelling story or product that everyday people would want to support or pre-purchase. Keep in mind it requires effort in campaign promotion and transparency with your backers.

In practice, many SMEs use a **combination** of these funding pathways over time. You might start with a small grant or personal funds, build a prototype, then get into an incubator which leads you to an angel investor, later take a loan for expansion, and maybe eventually attract a larger impact investment. The key is to be strategic: use grant or patient capital for the risky R&D phase, use loans or equity when you have cash flow and need to scale operations.

Table 3.7. Funding Options and Associated Conditions

Funding Type	Source of Funds	Application Complexity (Least to Most)	Repayment Required?	Ownership Dilution?	Expectation of Return	Key Obligations
Accelerators/ Incubators	Donor orgs, corporates, or venture programmes	★★ Medium – selective entry	No (mostly grants/prizes)	No	Improved business model & future investability	Attend programme, deliver progress, participate in demo day
Angel Investors	Private individuals	★★ Medium – personal pitch essential	No (equity)	Yes - some input from investor	Financial returns + mentorship opportunities	Business updates, openness to advice
Green Bank Finance	Commercial or development banks	★★ Medium – need financial records	Yes (loan terms apply)	No	Loan repayment with interest	Must meet bank's green criteria, ensure timely repayment
Crowdfunding	Public (via online platforms)	★★ Medium – requires campaign effort	No	No (usually pre-sales/ donations)	Social return or product delivery only	Deliver promised rewards; maintain transparency
Concessional Loans	Public sector, Development Finance Institution, multilateral banks	★★★ Medium-High – but guided process	Yes (but lenient terms)	No	Indirect impact via sustainable project outcomes	Meeting eligibility criteria; ESG reporting
Grants	Government, NGOs, foundations	★★★ High – competitive & paperwork	No	No	Impact outcomes (social/ environmental)	Reporting on KPIs, use funds as per proposal
Impact Investors/VCs	Funds with dual (impact + financial) mandate	★★★★ Very high – due diligence heavy	No (equity) or Sometimes (debt)	Yes - board seats or control	Dual: profit + measurable ESG impact	Rigorous monitoring, reporting, scaling performance

Source: Kusnadi, 2025.

2.3. Stakeholders Offering Support through Partnerships and Networks

Don't go for it alone – Beyond the funding sources themselves, there is an ecosystem of support organisations to help circular SMEs become investment-ready and connect with funders. Support goes beyond funding, covering partnerships, market channels, capacity building, and facilitation to boost your circular business. Leverage these avenues:

Business Support Networks

Engage with industry associations, SME support centres, and green business networks. They can advise on funding opportunities and even introduce you to potential funders. For example, the Philippine Chamber of Commerce and Industry (PCCI) and local Green Business Councils sometimes partner on sustainability projects. There are also national cleaner production centres and bodies like the Philippine Green Economy Coalition that can guide you. Being active in these networks means you'll hear about relevant grants or investor forums early.

Government SME Programs

Tap into general SME support programmes and see how they can help your circular goals. The DOST's Small Enterprise Technology Upgrading Program (SETUP) offers equipment and technical assistance which could help if you need machinery for recycling or production. DTI's Shared Service Facilities and Kapatid Mentor ME programmes provide mentorship and equipment sharing – not specific to circular economy, but if you articulate your sustainable project's needs, they could assist. Also check if your project falls under activities with fiscal incentives from the Board of Investments (e.g. recycling facilities or renewable energy may get tax breaks). These programmes can indirectly finance upgrades or reduce your costs.

Contests and Challenges

Keep an eye out for competitions focused on circular economy or climate innovation. Winning a challenge can come with prize money, grants, or at least publicity and connections. For example, UNDP might run a **'plastic challenge'** or an **'inclusive recycling innovation challenge'** where winners receive grant funding and support. DTI has held green business competitions in the past. Even if you don't win top prize, being a finalist can raise your profile to investors and mentors. Locally, the BPI Sinag sustainability challenges, for instance, have provided funding and support to winning social enterprises.

Knowledge Networks

Being part of networks or local industry associations can expose you to funding calls and partners. Sometimes just networking in these forums helps you meet an angel investor or a government official who can open a door. The ASEAN CE Business Alliance (ACEBA) launched in 2024 aims to share best practices and might spotlight SMEs to larger companies. In the Philippines, organisations like *Philippine Alliance for Recycling and Materials Sustainability (PARMS)* or *Philippine Social Enterprise Network* could be useful communities.

Academic and Research Partnerships

Don't overlook universities. In the Philippines, schools like Ateneo, De La Salle, Mapua University, and many other institutions, have innovation offices and have worked on sustainable tech. They might partner on research (giving you technical validation) or include you in their incubator's programmes. Some universities (i.e., University of the Philippines, Asian Institute of Technology Entrepreneurship Center) have business centres or incubators that accept outside startups, not just student-led ones. Also, if you need lab access for testing a material, academia might help in exchange for collaboration or data sharing.

International Agencies and Platforms

Leveraging global and regional platforms for circular economy growth such as Regional Knowledge Centre for Marine Plastic Debris (RKC-MPD) ERIA, United Nations Global Compact SME engagement, UN Global Compact, World Circular Economy Forum, or ADB's regional initiatives. Sometimes they run calls for SME submissions or offer to showcase case studies. If your company gets featured in a report or at a conference, it can attract funders' attention. For example, if the ADB or World Bank highlights your project in a study on circular economy, it's almost like a stamp of approval that can draw investors. So, don't be shy in sharing your story and impact in such forums – it's free exposure.

Apply to Relevant Programs and Calls

Stay alert for grant calls, competitions, or accelerator programme applications focused on circular economy or climate innovation. Governments and international bodies regularly launch funding calls for green projects. Applying to targeted programmes (e.g. EU circular economy funding calls, innovation competitions by corporations) can yield not just funds but also validation and publicity. Many multi-stakeholder initiatives are emerging to bridge SMEs with finance – for instance, the OECD's Platform on Financing SMEs for Sustainability aims to facilitate SMEs' access to sustainable finance and share knowledge on green funding solutions.

In summary, actively seeking these support systems can dramatically accelerate your progress. Many successful SMEs use a mix of pathways: you might start with a small grant, join an incubator for mentorship, then meet an angel investor there, later take a green loan for expansion, and eventually attract a bigger impact investor. Build your journey step by step. Importantly, when funders see that you have credible endorsements or have won support in a competitive process, it boosts their confidence. For instance, if you can say 'We were selected as one of the top 5 circular startups in ASEAN by Switch-Asia,' that immediately adds legitimacy to your venture. Leverage these opportunities – they not only bring money but also knowledge, partnerships, and morale support from fellow entrepreneurs.

TIPS: Resources to Start Your Business' Circular Journey
Here are some practical resources and tips specifically for Philippine SMEs venturing into circular economy and ESG:

Funding Sources in PH to Explore:

- DTI's Green Financing Program (through SB Corp): A loan program for MSMEs adopting sustainable practices.
- Landbank and DBP: Both have environment-related credit lines (e.g. Landbank's Climate Smart Lending).
- Philippine Tropical Forest Conservation Foundation (PTFCF): Gives grants to projects including sustainable livelihoods (sometimes relevant to circular agri-products).
- UNDP Ocean Innovation Challenge: Global, but Filipinos can apply if relevant – grants for innovative ocean plastic solutions.
- Impact Investors active in Southeast Asia: ADB Ventures (has a focus on tech for sustainability), Circulate Capital (invests in plastic recycling companies in Asia), Seedstars, and various angel networks like Manila Angel Investors Network (MAIN) which is increasingly interested in ESG startups.

ESG Reporting Tools for SMEs:

- Check out the Global Reporting Initiative (GRI) standards – while made for bigger firms, GRI has a simplified guide for SMEs to start sustainability reporting.
- B Impact Assessment: Even if you don't aim to be a B Corp, their free online assessment tool is a great way to evaluate your social and environmental performance and get a scorecard – which you can use in pitches to show you measure impact.
- Sustainability Audits: DTI has the PhiliPS (Philippine Pride in Sustainability) program which helps SMEs assess their current sustainability level and how to improve – consider joining.
- Also, tools like Carbon footprint calculators or Lifecycle Assessment (LCA) software can help quantify your environmental impact improvements. The Climate Neutral Now initiative (UNFCC) provides basic tools for calculating emissions which could be relevant if you want to claim carbon savings.

Regulatory Updates in the Philippines:

- The Extended Producer Responsibility (EPR) Law (RA 11898) – as detailed, if you serve large companies, be aware of their obligations (e.g. plastic packaging recovery targets of 20% rising to 80% by 2028). This can create business for you if you offer recovery/recycling services.
- Solid Waste Management Act (RA 9003) – mandates segregation and LGU waste plans; as an SME, know your local city's ordinances (many Metro Manila cities ban plastic bags or straws, etc.). This could affect packaging choices and also present opportunities to supply alternatives (like paper or reusables).
- Climate Change Act and Disaster Risk Reduction laws – there are provisions for 'green jobs' incentives (RA 10771 Green Jobs Act) which might give you tax perks if you can be classified under it (requires verification of your environmental service).
- Upcoming: A Circular Economy bill has been discussed in Congress – keep an ear out, as it might introduce more support or rules for industries to go circular. Similarly, talks of a nationwide single-use plastic ban or tax may resurface; being ahead in providing alternatives will pay off.
- Extended Producer Responsibility for Electronics and other waste streams could be on the horizon too, given global trends – think ahead if your business can play in that space (e-waste recycling SMEs, for example, might soon be in demand).

Platforms and Accelerators & Incubators

- ERIA RKCMPD - Private sector Platform (PSP)
- ERIA E-DISC and The Incubation Network – regional programs (you might join virtually or get connected to peers in other countries).
- Climate Collective Asia – runs climate-focused incubator programs.
- Impact Hub Manila – has programs for social enterprises and occasionally environment-themed challenges.
- Makesense Philippines – runs incubation programs for circular solutions, especially around plastics and community projects.
- IdeaSpace – a Philippine tech startup accelerator.
- CSIRO Indo-Pacific Plastics Innovation Network (IPPIN) offer mentorship and training for SMEs tackling plastic waste, so they can refine their ideas and find product-market fit.
- The Incubation Network (a partnership by SecondMuse and The Circulate Initiative) builds a community of startups, investors, and experts focused on plastic pollution and circular economy solutions in South & Southeast Asia.
- Villgro Philippines Incubation - inspire, mentor, fund, and nurture entrepreneurs who are addressing the most urgent social issues through innovative market-based models.

- Sustainable PH – a local network that sometimes runs workshops and has an online community for sustainability-minded entrepreneurs.
- TechShare by DOST – provides technical consulting to MSMEs on process improvements (could help if you need to refine a recycling process or product design).
- Asian Development Bank's Youth for Asia – occasionally has programs for young entrepreneurs in sustainability.
- FabLabs (Fabrication Laboratories) e.g. in UP Diliman or DTI's regional FabLabs – useful if you need to prototype products (like designing a new reusable container or upcycled product) using 3D printers, laser cutters, etc., at low cost.

Peer Learning

- Talk to fellow entrepreneurs who have done it. The stories we included (Green Antz, The Plaf, R2R) are well-known – their founders often speak at events or can be reached via LinkedIn. Don't be afraid to connect and ask for advice or mentorship. The circular economy community is usually collaborative; many pioneers are happy to see more people join the mission.
- Join Facebook or LinkedIn groups on social enterprise or green startups in the Philippines. People often share opportunities (like 'hey, there's a call for proposals by this foundation' or 'anyone know where to source recycled paper?' etc.).

Lastly...

Persevere and adapt. The circular journey blends science, business, and advocacy – some days you might be tweaking a machine, another day pitching to a mayor, another training your staff on quality control of recycled materials. Keep the bigger vision in mind: you're building a business that's part of a solution to triple planetary crisis, in this case plastic pollution. That purpose can keep you motivated and inspire others (investors, partners, customers) to rally around you.

2.4. What Funders Look for in Circular Economy Proposals

Funders evaluating circular economy projects generally focus on a combination of impact potential and financial viability, amongst other criteria (Commonwealth Secretariat, 2024). Understanding what they value will help you tailor your approach. Typically, funders consider:

Clear Environmental and Social Impact

Almost all green funding sources will scrutinise the positive impact of the project. They look for clear environmental benefits such as significant waste reduction, recycling or reuse of materials, lower carbon emissions, pollution prevention, or resource efficiency improvements.

The greater and more credible the impact, the more attractive the project. Some funders even have specific thresholds or targets in mind, so aligning your metrics with their focus (be it climate, waste, water, etc.) is advantageous. As an example, a circular business grant might require demonstrating how many kilograms of plastic will be recycled annually, or a clean tech loan might favour projects cutting a certain amount of CO_2 – meeting or exceeding these expectations is key. Tools like lifecycle assessments or carbon calculators can lend weight to your claims, but even simple metrics tracked over time show seriousness.

Demonstrated Impact, proposals should therefore present measurable impact metrics:
- Material-use optimization or kept in circulation; % reduction in virgin materials
- Production efficiency, economic savings.
- Emissions reduction – CO_2 emissions avoided per year.
- Waste diversion – tons of waste avoided or minimized.
- Job creation – number of people involved in the circular cycle or loop.

Tips: Use data, projections – e.g. tons of material looped back; % material/waste reduced.

Innovation and Scalability

Is the solution new or better than what's already out there? Funders, especially those running innovation challenges or impact investors, seek ideas that aren't just copy-pasting existing models (unless you're bringing a proven model to an underserved area, which can be framed as innovative adoption). Highlight any unique technology/digitalisation, creative business model, or even unique use of local materials/traditional knowledge. Innovation also includes **how you plan to sustain and scale the impact** – a clever approach to growth or community engagement counts.

Financial Return and Viability

For any investment or loan, the funder will scrutinise if the business can eventually generate income and possibly profit. They will ask: Is the revenue model sound? Are cost projections realistic? They'll also consider scalability: can this model grow to benefit more people or areas if successful? Even grant-makers who care primarily about impact like to fund projects that can ripple out or become self-sufficient after the grant. Show that you have a plan for the long term. For example, today you might rely on grants to build a prototype, but in two years you plan to generate steady sales or get follow-on investment.

Team Capability and Integrity

Funders assess who is behind the project. A capable, passionate team with relevant expertise can greatly increase confidence in your proposal. Highlight core strengths clearly. For instance, in food and beverage businesses, this could include skills in brand positioning, social media marketing, sustainable and ethical branding, or event collaborations.

Even modest past achievements, such as successfully completing a pilot or signing an MOU with a partner, show your ability to deliver. Integrity is also critical – funders may do background checks or reference calls. Being transparent, responsive, and professional in all dealings creates a positive impression that you are trustworthy to work with.

Alignment with Policy or Fund Goals

Especially for public funds, alignment with wider policy objectives is considered. If a country or region has a strategy for circular economy, funders will favour projects that help meet those targets (e.g. contributing to recycling rates or circular material usage goals). Private impact investors might have particular themes of interest (say, reducing ocean plastic or advancing renewable materials) – they'll weigh how closely a proposal fits their mission. Always ensure you articulate how your project contributes to the bigger picture or addresses a recognised need in the circular economy landscape. If there are relevant regulations or trends (for instance, new waste directives or corporate sustainability pressures) that your project leverages, mention them to show timeliness and relevance.

Tips: In your proposal, dedicate a short section or explanation on 'Policy and market alignment'. This signals to reviewers that you've done your homework and that your project will be complied, policy-relevant.

Example: Proposals that support or enable compliance with EPR obligations (Philippines EPR Act Law (RA 11898), demonstrating strong policy relevance.

Risk Mitigation

Any funder will consider the risks involved – be it financial risk, technical risk, or market risk. A good proposal addresses these honestly. Funders appreciate when you acknowledge challenges and present how you'll manage them. For example, if one risk is that customers may be slow to adopt a new circular product, maybe your plan includes a strong awareness campaign or a freemium model to attract users. By showing you've thought about risks, you make the funder more comfortable that their money will be used wisely and not lost to foreseeable pitfalls.

TIPS: Preparing Effective Grant and Funding Applications

A well-prepared proposal can make all the difference. Keep these best practices in mind when applying for grants or funding:

Research and Align with Funder Objectives:

- **Understand their priorities:** Carefully review the funder's mission, eligibility criteria, and previously supported projects. Each funder emphasizes different outcomes (e.g. plastic reduction, livelihoods, renewable energy).
- **Tailor your narrative:** Explicitly show how your project supports the funder's goals. For example, if applying to a program focused on reducing ocean plastics, highlight your project's contribution to marine ecosystem protection.
- **Use their language:** Mirror the terminology in the call for proposals (e.g. 'waste diversion' or 'circular innovation').
- **Eligibility check:** Confirm basic criteria such as sector, location, company size, or beneficiary type before investing time in the application.

Follow Guidelines and Be Clear:

- **Stick to instructions:** If guidelines specify a two-page concept note or strict word limits, comply exactly. Non-compliance is a common rejection reason.
- **Keep it readable:** Avoid jargon unless the evaluators are technical experts. Use short paragraphs, bullet points, and clear subheadings.
- **Executive summary:** Craft a compelling 1–2 paragraph overview that highlights the problem, your solution, and expected impact. This can determine whether reviewers keep reading.

Articulate the Circular Impact – with Data!:

- **Be specific:** Replace vague claims with measurable outcomes. Instead of 'reduce plastic waste,' write: *'We will reduce plastic waste by 50 tons annually by Year 3, representing 10% of the city's landfill diversion target.'*
- **Use supporting evidence:** Include pilot project data, feasibility studies, or scientific references where available.
- **Connect to larger goals:** Link your project's impact to SDGs, national climate commitments, or extended producer responsibility (EPR) laws.
- **Show monitoring capability:** Outline how you will measure, report, and verify results (e.g. baseline surveys, tracking systems).

Provide a Solid Business Case:

- **Show viability:** Present your business model clearly – how you will generate revenue (sales, service fees, licensing, etc.), identify customers, and manage costs.
- **Financial planning:** Provide realistic projections of revenue, expenses, and break-even timelines. Avoid inflated numbers; credibility matters more than ambition.
- **Evidence of traction:** Mention sales figures, letters of intent from potential buyers, or partnerships with distributors.
- **Market demand:** Highlight opportunities (e.g. '*The regional eco-brick market is valued at ₱500M and growing 10% annually*'). Show how your product fits into a growing market.

Highlight the Team and Partnerships:

- **Team strengths:** Introduce key members and their experience (e.g. technical expertise in recycling, marketing skills, or previous project management).
- **Advisors and mentors:** If you have experts guiding you, include their names and credentials.
- **Partnership credibility:** Collaborations with local governments, NGOs, or universities strengthen your case. Letters of support show trust and validation.
- **Example:** A women-led business leveraged its team's marketing expertise and partnered with a local supermarket to launch eco-packaging, boosting funder confidence and securing seed investment.

Showcase Sustainability Commitment – Avoid Greenwashing:

- **Prove long-term commitment:** Reference sustainability certifications, awards, or green initiatives your business has already undertaken.
- **Transparency matters:** Share sustainability policies, past community clean-ups, or membership in green networks to show authenticity.
- **Be realistic:** Do not exaggerate. Overpromising and under-delivering can damage reputation and future opportunities.
- **Due diligence awareness:** Many funders now fact-check claims. Provide credible, verifiable evidence to build trust.

2.5. Avoiding Greenwashing and Maintaining Trust

What is Greenwashing?

When pitching a circular business, it's vital to be truthful and transparent about your environmental claims – in short, avoid greenwashing. Greenwashing means exaggerating or falsifying sustainability claims, and it can seriously damage your reputation and the broader circular economy market. Funders and consumers today are quite vigilant; if they catch even a whiff of misleading claims, you could lose their trust and support overnight. In some cases, there could even be legal consequences for false advertising or fraud.

Greenwashing is harmful not just to one business but to the whole movement. Why? If investors or the public cannot trust companies' environmental claims, they become reluctant to invest in any supposedly green project, slowing the flow of capital into genuinely sustainable solutions. A few bad actors overhyping their impact cast doubt on everyone else's work. This undermines the credibility of the circular economy and can 'destroy' market opportunities by directing funds and customers away from truly impactful businesses. In other words, every exaggerated claim erodes confidence, making it harder for honest circular SMEs to get support.

How to Maintain Trust and Avoid Greenwashing?

To maintain trust, practice rigorous impact measurement and honest reporting. Use accepted standards or methods to calculate your benefits (for example, conduct a simple waste audit to quantify how much material is recycled, or use a carbon footprint tool to estimate emissions saved). Wherever possible, provide evidence: third-party certifications, lab test results, or pilot data. If you claim your product is *compostable*, maybe get a certification or at least a lab test report to prove it. If you say, 'made of 100% recycled plastic,' ensure your supply chain actually delivers that, and you have documentation. These evidence-backed claims build credibility.

Regulatory Frameworks in the Philippines and ASEAN

Philippine law does not have a single statute dedicated to greenwashing, but several regulations cover misleading environmental claims. Republic Act 7394 (Consumer Act) prohibits false, deceptive, or misleading advertisements in general (SyCip Salazar Hernandez & Gatmaitan, 2024). This empowers the Department of Trade and Industry's Fair Trade Enforcement Bureau (DTI-FTEB) to act on greenwashing under false advertising provisions. In fact, Article 110 of the Consumer Act expressly makes it unlawful to disseminate any misleading advertisement, which would include unfounded 'green' claims (Rajah & Tann Asia, 2023). The DTI has even partnered with the Advertising Standards Council (ASC) to strengthen enforcement against misleading ads (Rajah & Tann Asia, 2023). The ASC's code (a self-regulatory code for advertisers) requires that environmental claims be truthful and substantiated, aligning with international advertising best practices.

Beyond consumer protection, financial and securities regulators have issued guidance to curb greenwashing. The Bangko Sentral ng Pilipinas (BSP), for instance, directs banks to ensure their investments go to companies that do not engage in greenwashing (SyCip Salazar Hernandez & Gatmaitan, 2024). BSP Circular No. 1149 defines greenwashing as deceptive marketing that misleads the public about an organisation's environmental practices (SyCip Salazar Hernandez & Gatmaitan, 2024). Similarly, the Securities and Exchange Commission (SEC) has guidelines on when bonds or funds can be labelled 'green,' 'sustainability-focused,' or ESG, to prevent misuse of these labels (SyCip Salazar Hernandez & Gatmaitan, 2024). In other words, any Philippine company issuing green bonds or sustainability bonds must meet criteria under the ASEAN Green Bond Standards adopted by the SEC (Rajah & Tann Asia, 2023), ensuring proceeds truly fund eligible green projects. While these financial-sector rules mainly affect larger firms, they signal a broader policy stance: claims of sustainability must be backed by real action.

At the sectoral level, environmental labelling programmes encourage truthfulness. The Philippines' voluntary ecolabel scheme, the National Ecolabelling Programme – Green Choice Philippines (NELP-GCP), is a Type I (third-party certified) label per ISO 14024. The DTI actively urges consumers to look for the Green Choice Philippines seal on products as a mark of verified environmental preference (Rajah & Tann Asia, 2023). Companies that obtain this seal must undergo a rigorous assessment of lifecycle impacts. According to Philippine Center for Environmental Protection and Sustainable Development (PCEPSDI), this not only helps eco-conscious SMEs showcase genuine credentials, but also 'shares the initiative to combat greenwashing' by using credible environmental labels. In short, while self-declared claims (ISO 14021 Type II labels) are allowed, Philippine policy nudges businesses toward independent certification to lend credibility to green claims.

Regionally, ASEAN has begun addressing greenwashing risks through sustainable finance frameworks. The ASEAN Taxonomy for Sustainable Finance (launched 2021, version 2 in 2023) provides a classification system for green economic activities. Its aim is to guide investments and reduce 'greenwashing' of financial products by defining what counts as environmentally sustainable across member states. However, enforcement of taxonomy alignment is still evolving and largely voluntary. Individual ASEAN countries use their own consumer laws and advertising codes to police green claims.

For example, Singapore has no singular greenwashing law but leverages its Consumer Protection (Fair Trading) Act against false green claims, and its Advertising Standards Authority issues guidelines on clear, substantiated environmental messaging (Latham & Watkins LLP, 2025). Other countries like Malaysia and Indonesia similarly treat greenwashing under general advertising/consumer protection laws (ClientEarth, 2024). In Thailand, voluntary certifications (like the Thai Green Label) and some mandatory ecolabeling for products exist (Jabal, 2024). The trend in ASEAN is toward stronger oversight as sustainability becomes a selling point – regulators are watching that businesses don't overstep with misleading claims.

Best Practices and Guidance to Avoid Greenwashing

For circular economy SMEs, avoiding greenwashing is not only a legal concern but a matter of maintaining trust with customers and investors. Here are industry best practices and guidelines to ensure sustainability claims remain credible:

Be Specific and Truthful
Vague buzzwords like 'eco-friendly' or 'green' without context can mislead. Instead, provide concrete, evidence-based metrics. For example, rather than saying a product is 'low waste,' specify that it uses 50% recycled plastic or reduced its waste by a certain tonnage. Claims should only cover aspects you can substantiate – partial truths or exaggerations are a major pitfall. Always ask: could this claim mislead a reasonable customer about the actual benefit?

Avoid the Common 'Sins' of Greenwashing
Decades of studies have identified patterns of misleading green marketing. Avoid the infamous 'seven sins of greenwashing' according to UL Solutions-- a global private safety company:

1. **Sin of the Hidden Trade-Off:** implying that a product is green based on a narrow set of attributes without attention to other important environmental issues. E.g. calling a product green based on a narrow attribute like recycled content while ignoring bigger impacts like energy use
2. **Sin of No Proof:** occurs when claims cannot be supported by easily accessible information or third-party certification.
3. **Sin of Vagueness:** occurs when a claim is poorly defined and therefore likely to be misunderstood by consumers.
4. **Sin of Worshipping False Labels:** occurs when the product gives the impression of third-party endorsement which isn't real. This could be through creating fake certification - often companies own in-house certification means they don't have to adhere to any rigid environmental standards.
5. **Sin of Irrelevance:** occurs when the claim, although truthful, is unimportant for companies seeking environmentally friendly products.

6. **Sin of Lesser of Two Evils:** occurs when a claim could be truthful within the product category but risks distracting the consumer from the greater environmental impacts of the category as a whole.
7. **Sin of Fibbing:** occurs when a product's claims are simply false.

By checking your marketing against these well-known pitfalls, you can self-audit whether a claim might be unintentionally deceptive.

Several governments publish green marketing guides – for instance, the UK's Green Claims Code (for consumer protection law compliance) under the country's competition and Markets Authority or Canada's Competition Bureau guidelines on environmental claims-- which provide checklists that are helpful globally. Make use of such resources to train your marketing teams.

Use Recognised Standards and Definitions

Align your marketing language with established definitions from standards like ISO 14021 (for self-declared environmental claims). ISO 14021 provides agreed meanings for terms such as 'compostable,' 'recyclable,' 'biodegradable,' etc., and sets requirements on how to validate those claims (Philippine Center for Environmental Protection and Sustainable Development (PCEPSDI). The PNS (Philippine National Standard) 2102:2013 (Specifications for compostable plastics), which specifies procedures and requirements for identification and labelling of plastics and plastic products that are suitable for recovery through aerobic composting. The standard addresses biodegradation, disintegration during composting, negative effects on the composting process and facility, and negative effects on the quality of the resulting compost, including the presence of high levels of regulated metals and other harmful components (ERIA, 2023). By adhering to such standards SMEs ensure their claims are made in the correct context. Likewise, refer to life-cycle assessment data for claims about a product's overall environmental impact – avoid highlighting one eco-friendly feature if other aspects make it unsustainable (the classic 'hidden trade-off' sin of greenwashing). Clear definitions and full life cycle thinking guard against inadvertently misleading assertions.

Obtain Third-Party Certifications or Labels

One of the strongest ways to lend credibility to your environmental claims is through independent certification. Programs like the Green Choice Philippines (NELP-GCP), or international ecolabels (Energy Star, Fair Trade, FSC, etc., depending on your product), can verify that your product or service meets certain environmental standards. The advantage of a trusted ecolabel is that it signals an objective review of your sustainability claims. In fact, having the GCP seal in the Philippines is evidence that a company is actively combatting greenwashing by using an approved environmental label (Philippine Center for Environmental Protection and Sustainable Development (PCEPSDI). Similarly, industry-specific certifications (e.g. Global Recycled Standard for recycled content) provide assurance to customers that your claims aren't just self-serving hype. Certification does involve effort and cost, but it sends a strong message of accountability and can differentiate genuine circular businesses from those merely marketing themselves as 'green.'

Ensure Transparency and Data Disclosure
Vouching for sustainability means being ready to show your work. Regulators and consumers alike appreciate when a company openly shares the data or methodology behind its environmental assertions. For example, if you claim your process reduces 30% plastic waste, be prepared to share how you calculated that figure (baseline, measurement method, etc.). The ASC in the Philippines suggests requiring companies to disclose the supporting data for their sustainability claims so that these can be independently verified (Jabal, 2024). Being transparent might involve publishing summary life-cycle analyses, carbon footprint reports, or waste diversion statistics on your website or marketing materials. This level of detail not only deters you from making unsupported claims (since you know scrutiny is possible) but also builds trust with a savvy customer base that increasingly demands proof. Remember, honesty and clarity go a long way – if a product is sustainable in one aspect but not others, it's better to explain that nuance than to oversimplify with an absolute 'green' label.

Educate and Engage Stakeholders
Sometimes avoiding greenwash is about managing perceptions and educating your audience on what your claims truly mean. Be proactive in explaining your sustainability journey – what you have accomplished, what trade-offs exist, and what you are working on next. This honesty can turn potential scepticism into support. Internally, ensure your whole team (from product development to sales) is aligned in understanding the company's real environmental impacts, so that no one overclaims out of ignorance or enthusiasm (Play It Green, 2025).

Externally, consider publishing an annual sustainability report (even a short one) following frameworks like the Global Reporting Initiative (GRI) or the new ISSB standards, which the Philippine SEC is encouraging for listed firms (SyCip Salazar Hernandez & Gatmaitan, 2024). A simplified version can be adapted for SMEs. Such reports force you to quantify and discuss your environmental performance in a structured way, reducing the chance of selective storytelling. By fostering an informed customer base and transparent communication, you help create a market environment where authentic sustainability efforts are recognised and greenwashing is naturally met with scepticism.

In conclusion, avoiding greenwashing is both a responsibility and an opportunity for circular SMEs. By adhering to local regulations, learning from regional case examples, following best-practice guidelines, and aligning with global standards, SMEs in the Philippines can confidently market their circular solutions without misleading stakeholders. The payoff is sustained consumer trust, easier access to green finance (as investors trust your claims), and a stronger reputation in an economy that is increasingly valuing authentic sustainability over mere green PR. Each honest claim and transparent report contributes to a culture where truly circular businesses thrive, and greenwashing is kept at bay-- which ultimately benefits the entire ecosystem of sustainable enterprises.

TIPS: Actionable Resources for SMEs

Filipino SMEs have access to several resources to help navigate honest marketing in the sustainability space:

- **Websites and Toolkits:**
  - The DTI's consumer education page and the ASEAN Consumer Protection site offer guidance on consumer rights and fair marketing (e.g. explaining provisions of the Consumer Act).
  - The Philippine Center for Environmental Protection and Sustainable Development (which manages the Green Choice ecolabel) provides FAQs and criteria on their website offers insight into what it takes to legitimately call a product 'eco-preferred.'
  - Internationally, the UK's Green Claims Code is a practical 13-point checklist written in plain language, and while UK-focused, it is highly relevant to any business making green claims.
  - For circular economy specifics, the Ellen MacArthur Foundation's Circular Economy Toolkit for Small Businesses can help SMEs align their business model with genuine circular practices, thus reducing the risk of accidental greenwashing.

- **Publications and Reports:**
  - Look out for industry reports such as the 'Managing Greenwashing Risks: A Southeast Asian Lens' (Rajah & Tann Asia, 2023) which overviews legal landscapes around green claims in each ASEAN country. This can help an SME understand what laws or guidelines might apply in their market.
  - Business councils and chambers often publish guidance distilling global best practices into the local context. For instance, the BusinessWorld op-ed outlined strategies the Philippine ad industry could adopt to verify claims (standardizing metrics, requiring third-party certifications, etc.).
  - NGOs like EcoWaste Coalition and global nonprofits like BSR (Business for Social Responsibility) have also published guides on avoiding greenwash – e.g. BSR's 'Understanding and Preventing Greenwash' which discusses how to communicate sustainability honestly (referencing the U.S. Federal Trade Commission (FTC) Green Guides). By reading these resources, SMEs can learn from others' mistakes and successes.

- **Platforms for Verification:**
  - Global testing/certification firms like SGS and UL offer validation services for specific claims (like recycled content verification in products).
  - The Global Ecolabelling Network (GEN) is an association of credible ecolabel programs worldwide – their directory can point SMEs to recognized labels relevant to their product category and region.

Case Study: Notable Greenwashing Cases in the Philippines and ASEAN (Fernandez, 2024)

A high-profile Philippine case involved major consumer goods firms accused of misleading recyclability claims. In November 2022, a group of 32 Filipino consumers and environmental activists filed a complaint with Department of Trade and Industry - Fair Trade Enforcement Bureau (DTI-FTEB) against seven companies – including Procter & Gamble (P&G), Unilever, Nestlé, Coca-Cola, and others – for false 'recyclable' labels on plastic packaging. The products displayed the familiar Mobius loop symbol and phrases like 'recycle me' or 'recyclable,' implying the packaging could be fully recycled. Complainants argued this was deceptive because not all parts of the plastic packaging were actually recyclable in the Philippines' current facilities. Indeed, some packaging components either cannot be processed locally or release toxins when recycled, meaning the items would still likely end up as pollution.

P&G chose to enter mediation and settled the case in February 2024, agreeing to review and improve its recycling labels. As part of the settlement, P&G will hold bi-annual meetings with the complainants to discuss solutions like waste reduction and refillable packaging. In public statements, P&G maintained it had complied with laws but acknowledged it could clarify its labelling to meet the standards of the new Extended Producer Responsibility Act of 2022 (which mandates large companies to recover plastic packaging) and the Consumer Act (SyCip Salazar Hernandez & Gatmaitan, 2024).

The case against the other companies (which did not join the settlement) is still pending with DTI. This is a landmark example in the Philippines, showing how consumer activism and existing laws (the Consumer Act's ban on misleading ads, in this instance) are being used to challenge dubious environmental claims. It has put firms on notice that greenwashing can lead to legal action or at least public mediation.

Notably, this wasn't the first such incident – back in 2021, P&G and Coca-Cola had also agreed to tweak recycling labels after a settlement with an anti-plastics group, who argued the companies oversold a recycling programme's effectiveness.

Elsewhere in ASEAN, regulators have begun cracking down on greenwashing in advertising. In Singapore, the Advertising Standards Authority of Singapore (ASAS) banned a 'Green Friday' marketing campaign by VietJet in November 2024 for making unsubstantiated environmental claims (Vimalan, 2025) (Latham & Watkins LLP, 2025). The airline had promoted eco-friendly messaging around flight sales, but ASAS found the claims lacked proof and could mislead consumers about aviation's environmental impact.

Another Singapore case saw an electronics retailer rebuked for an ad suggesting that using a particular energy-intensive appliance was 'the best tip to save Earth' – an obviously misleading assertion given the high electricity usage (Latham & Watkins LLP, 2025) (DLA Piper, 2023). These examples show that even in countries without a dedicated green claims law, general advertising standards are being enforced to address egregious case.

Within the Philippines, greenwashing concerns also extend to corporate social responsibility campaigns. Environmental watchdogs have criticised initiatives like Unilever Philippines' 'Misis Walastik' sachet collection programme as potentially greenwash – since the company heavily markets its recycling efforts while simultaneously being a top producer of non-recyclable sachets (Perez, Lim, 2024).

While these have not all led to formal legal cases, they are frequently cited by media and NGOs as examples of 'little green lies' that Filipino consumers should be wary of (Perez, Lim, 2024). The lack of specific anti-greenwashing laws in the country means these practices often slip through, although the reputational damage from public exposure can be significant. In summary, the most notable cases in the region underscore the importance of accurate labelling and honest marketing – from product packaging claims to corporate sustainability pledges – as stakeholders are increasingly prepared to challenge those that ring hollow.

Exercise 3: Crafting a Funding Proposal Pitch

Objective: Practice developing a concise funding proposal or pitch, incorporating the unique selling points and requirements of a circular business.

1. **Choose a Funding Target:** Each participant (or team) should choose a scenario: are you pitching to a bank for a loan, to an impact investor for equity, or applying for a grant? The approach will slightly differ:
   - For a **bank/loan:** focus on how you will repay, collateral/guarantees, and risk mitigation.
   - For an **investor/equity:** focus on growth potential, market opportunity, and return on investment (could be impact return too).
   - For a **grant:** focus on alignment with the funder's objectives (impact, innovation) and capacity to deliver results.

(The trainer can assign this for variety – e.g. Group A goes for a bank loan scenario, Group B an impact investor, Group C a grant from DOST.)

2. **Use a Simple Proposal/Pitch Outline:**
   - **Problem & Opportunity:** Start with what problem you solve and why it's compelling (e.g. 'Metro Manila generates 10,000 tons of plastic monthly and only 40% is recycled; our company provides a solution to turn this waste into useful products.'). Highlight market size or demand – show it's a big opportunity.
   - **Solution & Business Model:** Describe your product/service and how it works. Emphasise the circular aspects as innovation (this is your differentiator!). Explain briefly how you make money.
   - **Traction:** What have you achieved so far? Any pilot results, customers, partnerships, revenue? If early-stage, use proxies (prototype built, letters of intent, successful lab test, etc.).
   - **Impact:** Since you're circular, definitely mention your environmental/social impact with a stat if possible ('Every unit we sell saves 5kg of waste from landfills' or 'we employ 10 waste pickers formally'). Tie it to ESG trends or regulations: 'This directly contributes to companies needing compliance with Philippine's EPR Law, making us an attractive partner.'
   - **Team:** Why is your team the right one to do this? One line on each key member.
   - **Financial Ask:** How much money do you need and for what use? Be specific ('seeking ₱5 million loan for equipment purchase and working capital to increase recycling capacity by 3X'). If it's an investor, state what they get (equity % or expected return). If it's a bank, show you've considered interest and collateral ('we offer equipment as collateral and projection shows we can pay back in 3 years'). For grants, outline budget top-lines and assure you'll deliver value for money.

Try to do this in a one-page written form or a 3-minute spoken pitch.

3. **Incorporate Numbers:** Add a few key numbers to show you've done homework – market size, current revenue or cost savings, growth rate, etc. Also prepare a basic financial projection summary if applicable (like 'with this funding, by 2025 we project ₱X revenue and turning profitable by year Y').

4. **Focus on De-risking:** Very importantly, address one or two perceived risks with your mitigations (refer to earlier session). For example, 'One concern is whether we can source enough waste material – to ensure this, we have agreements with 3 barangays to supply us, and a clause that secures supply at fixed cost.' Or 'Our technology is proven in a pilot, and we've engaged an advisor from the university to oversee quality control.'

5. **Present and Simulate Q&A:** Each team/individual presents their pitch to the group or to a 'panel' (could be instructors acting as investors/bankers). Limit presentations to ~3 minutes. After each pitch, have a quick Q&A as if the panel were funders:
   - They might ask: 'What about competition? How will you handle scaling?' or 'What collateral do you have?' or 'How do we know customers will pay for this?' – answer as best as you can.
   - This will test if the pitch was clear and if you can think on your feet about your business. It's okay if you don't have all answers – this practice to highlight areas you need to refine.

6. **Feedback:** The panel/group gives feedback on strengths and areas to improve in each pitch. Perhaps the impact investor wanted to hear more about growth, or the banker wanted a clearer repayment plan. Take notes.

7. **Revise (if time permits):** Given the feedback, take a few minutes to think how you'd tweak your proposal. This might even be done as homework – refine your one-pager and financial model after the workshop.

   The aim of this exercise is to reduce the intimidation of approaching funders. By practicing, you realise they are just people who need to understand your business. It forces you to distil everything into a concise story – which often clarifies your own strategy too. Plus, by hearing others' pitches, you learn different ways to communicate effectively.

   Note: If you have actual financial data or a prototype, you could incorporate it into the pitch for realism. Trainers might provide a sample data set for a fictional company if needed (e.g. a small recycling centre's financials) for participants to base a pitch on, if they don't have their own.

   Through these exercises, you should gain practical insight into applying circular economy concepts and preparing your business for growth and funding. The key takeaway from the module is: circular businesses can unlock new support by leveraging trends and showcasing their value. With a clearer layout of strategies, real case inspiration, updated data on market trends, and hands-on practice in planning and pitching, Manila-based SMEs can confidently step forward on their circular economy.

References

Ad Standards Council (n.d.), *About the code*. https://asc.com.ph/our-standards/code-of-ethics/about-the-code/

Aldaba, R.M. (2011), 'SMEs access to finance: Philippines', In C. Harvie, S. Oum, and D. Narjoko (Eds.), *Small and Medium Enterprises (SMEs) Access to Finance in Selected East Asian Economies* (pp.291–350). ERIA Research Project Report 2010-14. ERIA. Available at: https://www.eria.org/uploads/media/Research-Project-Report/RPR_FY2010_14_Chapter_10.pdf

ASEAN (2023), *ASEAN Taxonomy for Sustainable Finance (Version 2)*. https://asean.org/wp-content/uploads/2023/03/ASEAN-Taxonomy-Version-2.pdf

ClientEarth (2024), *Navigating the Legal Landscape of Greenwashing in Asia's Finance Sector.* ClientEarth Asia. https://www.clientearth.asia/latest/blog/navigating-the-legal-landscape-of-greenwashing-in-asia-s-finance-sector/

Competition and Markets Authority (2021), *Green Claims Code: Making Environmental Claims.* GOV.UK. Retrieved 29 August 2025, from https://www.gov.uk/government/publications/green-claims-code-making-environmental-claims

Competition Bureau (2025), *Environmental Claims and the Competition Act*. Government of Canada. Retrieved 29 August 2025, from https://competition-bureau.canada.ca/en/how-we-foster-competition/education-and-outreach/publications/environmental-claims-and-competition-act

Ellen MacArthur Foundation (2020), Upstream Innovation: A Guide to Packaging Solutions [PDF]. https://content.ellenmacarthurfoundation.org/m/68bce0219d13262d/original/Upstream-Innovation-A-guide-to-packaging-solutions.pdf

ERIA (2023), *Eco-labelling*. ERIA-RKC MPD (legacy). https://legacy.rkcmpd-eria.org/eco-labelling/

Fernandez, H.A. (2024), *'Consumer goods firm reaches agreement over false recycling claim in the Philippines'* Eco-Business. https://www.eco-business.com/news/consumer-goods-firm-reaches-agreement-over-false-recycling-claim-in-the-philippines/

Haswell F., O.Y. Edelenbosch, L. Piscicelli, and D.P van Vuuren (2024), 'The geography of circularity missions: A cross-country comparison of circular economy policy approaches in the Global North and Global South' Environmental Innovation and Societal Transitions, 52: Article 100883. https://doi.org/10.1016/j.eist.2024.100883

Hong, S.G., H.J. Kim, H.R. Choi, K. Lee, and M.J. Cho (2014), 'Critical success factors for sharing economy amongst SMEs', In Mathematical Methods in Engineering and Economics (pp.70–74). INASE. https://www.inase.org/library/2014/prague/bypaper/AMCME-EBA/AMCME-EBA-11.pdf

International Finance Corporation (2017), *MSME finance Gap: Assessment of the Shortfalls and Opportunities in Financing Micro, Small, and Medium Enterprises in Emerging Markets*. Washington, DC: World Bank Group. https://openknowledge.worldbank.org/entities/publication/ff4c9839-21ac-5676-a23a-7cf6f745df0c

Jabal, R.F. (2024), '*Ensuring (regulating?) authentic sustainability*', BusinessWorld Online. https://www.bworldonline.com/opinion/2024/04/05/585903/ensuring-regulating-authentic-sustainability/

Latham & Watkins LLP (2025), *Tackling Greenwashing: Singapore's Approach and APAC's Evolving Regulatory Landscape*. Latham & Watkins. https://www.lw.com/en/insights/tackling-greenwashing-singapore-approach-and-apac-evolving-regulatory-landscape

Liamzon, C., S. Benosa, M. Aliño, and B. Baconguis (2020), Sachet Economy: Big Problems in Small Packets [PDF]. GAIA (Global Alliance for Incinerator Alternatives). https://www.no-burn.org/wp-content/uploads/2021/11/Sachet-Economy-spread-.pdf

O'Reilly, K., P. Lacy, K. O'Regan, and M. Hart (2021), Delivering on the Promise of Sustainability. Accenture. https://www.accenture.com/content/dam/accenture/final/a-com-migration/pdf/pdf-150/accenture-delivering-on-the-promise-of-sustainability.pdf

OECD (2019), SME and Entrepreneurship Outlook 2019 – Chapter on Digital Platforms for SMEs. https://www.oecd.org/en/publications/oecd-sme-and-entrepreneurship-outlook-2019_34907e9c-en.html

Perez, A. and M. Lim (2024), '*Scrutinizing the little green lies companies tell Filipinos*', The LaSallian. https://thelasallian.com/2024/07/20/scrutinizing-the-little-green-lies-companies-tell-filipinos/

Philippine Center for Environmental Protection and Sustainable Development (PCEPSDI) (n.d.), *FAQs – Green Choice Philippines*. https://pcepsdi.org.ph/programme/green-choice-philippines/faqs/

Philippine Center for Environmental Protection and Sustainable Development (PCEPSDI) (n.d.), '*FAQs – What type of labeling scheme is NELP-GCP?*' In *FAQs – Green Choice Philippines*. https://pcepsdi.org.ph/programme/green-choice-philippines/faqs/

Play It Green (2025). *How to Avoid Greenwashing in 2025: Tips from Play It Green*. https://playitgreen.com/how-to-avoid-greenwashing/

Rajah & Tann Asia (2023), *Managing Greenwashing Risks: A Southeast Asian Lens* [PDF]. Rajah & Tann Singapore LLP. https://www.ahp.id/clientalert/2023-05_FINAL-Regional-Guide-Greenwashing.pdf

SyCip Salazar Hernandez & Gatmaitan (2024), ESG in APAC 2024 – *Philippines*. Slaughter and May. https://insights.slaughterandmay.com/esg-in-apac-2024-philippines/index.html

UL Solutions (n.d.), 'Sins of greenwashing', UL Solutions Insights. https://www.ul.com/insights/sins-greenwashing

Vimalan, D. (2025), '*VietJet forced to remove 'Green Friday' campaign in SG after greenwashing claims. Marketing-Interactive*.' https://www.marketing-interactive.com/vietjet-forced-to-remove-green-friday-campaign-in-sg-after-greenwashing-claims

World Bank (2024), *Ocean Finance Availability Report*. The Commonwealth Secretariat. https://production-new-commonwealth-files.s3.eu-west-2.amazonaws.com/s3fs-public/2024-08/ocean-finance-availability_updf.pdf

Ziskind, J. and D. Guna (2017), *Collaboration in Cities: From Sharing to 'Sharing Economy'* [White paper]. World Economic Forum. www.weforum.org/docs/White_Paper_Collaboration_in_Cities_report_2017.pdf

Chapter 4

Policy Support and Recommendations

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1. Available Policy and Framework Support for Circular Businesses

1.1. Introduction of Policy and Framework Support

A supportive policy environment is crucial for enhancing circular economy (CE) practices adoption by businesses (Mubarik, Kontoleon, and Shahbaz, 2024; Purushothaman, Alamelu and Sudha, 2025). In the Philippines, the government has introduced national laws, plans, and international commitments that encourage waste reduction, resource recovery, and sustainable business models. Likewise, local governments are also aligning by implementing ordinances and programmes to support circular initiatives on the ground (Figueroa et al., 2021; Bueta and Domingo, 2023).

Although the Philippines does not yet have a fully integrated circular economy, a number of national policies and initiatives link directly and indirectly to the circular economy in a number of different industry sectors, including food processing, building, and construction (Schroeder, 2020). Understanding these policies – from national frameworks down to city-level regulations – helps private sector players and SMEs align their activities with regulatory trends and tap into available support. This section provides an overview of key national and local CE-related policies/frameworks and offers guidance on aligning business strategies with these evolving regulations.

1.2. Overview of the Policy Landscape promoting Circular Economy and addressing Plastic Pollution

The Philippines has a growing framework of laws and plans that promote circular economy principles. Some relevant national policies that provide the necessary framework for the operationalisation of circular economy in the Philippines include:

Ecological Solid Waste Management Act of 2000 (Republic Act 9003) (RA 9003): This law established a **solid waste management framework, mandating waste segregation, recycling, and the creation of local Materials Recovery Facilities (MRFs)** in every barangay. It sets **a 25% waste diversion target** and requires Local Government Units (LGUs) to develop solid waste management plans. RA 9003 has been widely praised but so far has been partially successful in implementation. Recent reviews, only 21% of regions had established the required waste facilities, and open dumping remains prevalent (SWITCH-Asia, 2025). Local authorities face funding and technical capacity gaps, and enforcement has been weak with minimal fines for violation, while none of the Act's time-bound goals have been met. Notably, RA 9003 did not explicitly address plastic pollution, leaving a regulatory gap for managing single-use plastics. For businesses, this law means companies must at least comply with waste segregation rules and **support recycling initiatives.** Notably, forward-thinking enterprises can go beyond compliance by helping improve collection and recycling with partnerships with LGUs or waste collectors to boost recovery rates.

Extended Producer Responsibility Act of 2022 (Republic Act 11898): This recent law squarely **places responsibility for plastic packaging** waste on **product manufacturers** and **importers.** It operationalises the polluter pays principle by mandating large enterprises to recover or recycle a certain percentage of the plastic packaging they put into the marketswitch-asia.eu. Targets start at **20% recovery** by the end of **2023**, rising incrementally each year to **80%** by **2028** (EMB, 2025). The law covers plastic producers, manufacturers, and brand owners by requiring them to establish collection mechanisms such as redemption and buy-back systems for plastic, paper, glass, and metal packaging, including beverage containers and single-use plastic bags (Kojima and Suwarno, 2025). Companies must register their EPR programmes and ensure documentation compliance, while linking these efforts to their sustainability reports. The EPR Act is a key driver of circular business models, pushing companies to redesign packaging, invest in recycling programmes, or collaborate with recyclers. It also emphasises public awareness and education on waste management as part of its implementations. Businesses, especially large manufacturers, need to align their operations with this law. For instance, by using recyclable materials, funding take-back schemes, or joining producer responsibility organisations (EMB, 2025). While the EPR law is a milestone towards circularity in the Philippines, it however faces compliance challenges, such as **struggle with the costs and logistics of waste recovery**, exacerbated by **limited recycling infrastructure** and **weak enforcement** to dates (SWITCH-Asia, 2025). Nonetheless, the trend is clear; regulatory expectations are rising for producers to manage end-of-life impacts of their products.

Clean Air Act (RA 8749) and Clean Water Act (RA 9275): These environmental laws set **standards for air emissions and water effluents** (EMB, 2015; EMB, 2017). While not specific to circular economy, they encourage industries to **minimise pollution**, indirectly supporting cleaner production and resource efficiency. For example, companies have to treat wastewater for reuse or ensure emissions control (aligning with circular principles of reducing waste outputs). Non-compliance can lead to penalties or closure, so SMEs must be aware of these requirements.

Climate Change Act of 2009 (RA 9729) and National Climate Change Action Plan (NCCAP): The Climate Change Act created the Climate Change Commission and requires a National Climate Action Plan. The NCCAP (2011-2028) includes sustainable energy **and improved waste management as pillars for climate mitigation**. It recognises that reducing waste and promoting recycling (key CE strategies) help lower greenhouse gas emissions. Thus, businesses adopting circular practices are in line with national climate strategy. Aligning with these can open opportunities (e.g. climate finance, support for climate-smart projects).

Green Jobs Act of 2016 (RA 10771): This law provides incentives such as **tax deductions** for companies that generate **green jobs and invest in green technologies.** Circular businesses, for example, recycling plants, remanufacturing enterprises, or companies providing repair/refill services – can qualify as green industries. By getting accredited under the Green Jobs Act, SMEs may avail of fiscal incentives for training, R&D, or capital equipment that improve their environmental performance. This is a direct policy linking economic benefits to sustainable business practice.

Philippine Action Plan for Sustainable Consumption and Production (PAP4SCP, 2020): This is a national action plan that integrates Sustainable Development Goal 12-Responsible Consumption and Production- into policy guidance. The PAP4SCP aims to **decouple economic growth** from environmental degradation by **encouraging resource-efficient, circular business models** and lifestyles (Katigbak and Villaruel, 2023). It proposes measures like strengthening RA 9003 enforcement, introducing single-use plastic ban, and expanding green public procurement. It also promotes market-based incentives (e.g. referencing the EPR law and green procurement policies) to spur businesses towards offering eco-friendly products. Importantly, PAP4SCP calls for multi-sectoral responsibility of government agencies, the private sector, local governments, and civil society all have roles in the shift to SCP (SWITCH-Asia, 2025). **For an SME**, this plan suggests that future regulations and programmes will favour circular approaches, so aligning early is advisable. Businesses can also participate voluntarily in initiatives under this action plan, such as awareness campaigns or pilot projects for sustainable product designs.

National Plan of Action for Marine Litter (NPOA-ML, 2021): Given the Philippines' position as a major source of ocean plastic leakage, this plan provides **a roadmap to drastically reduce marine plastic litter by 2040.** It takes a multi-stakeholder approach with strong emphasis on **plastics reduction, improved waste management, and extended responsibility for waste by all sectors** (government, industries, communities) (SWITCH-Asia, 2025). While not legally binding, the NPOA-ML signals the government's seriousness in tackling plastic waste which translates to more pressure on businesses to manage plastic use and invest in waste reduction measures especially in industries like packaging, food and beverage, and retail.

Investment Incentives for Circular Enterprises: The government's investment promotion policies increasingly list environmental projects as priority. Under the Strategic Investment Priority Plan (SIPP) guided by the CREATE law, projects **involving recycling facilities, renewable energy, or sustainable agriculture** can enjoy tax holidays and **other incentives**. In addition, a proposed Circular Economy Incentive Code is being formulated to harmonise fiscal and non-fiscal incentives for circular businesses. This was outlined in the pending Senate bill on circular economy tasking the Department of Finance and Board of Investments to support enterprises that adopt circular models. SMEs venturing into recycling, repair services, or circular product design should check for any available incentives, such as duty-free import of recycling equipment, income tax holidays, or grants under green financing programmes. Accessing these provisions can improve the financial viability of circular investments.

Emerging Legislation – Philippine Circular Economy Promotion Act: Most notably, lawmakers in the Philippines are **pushing for a dedicated circular economy law.** In 2025, Senate Bill No. 306 (the 'Philippine Circular Economy Promotion Act') was introduced to establish a comprehensive circular economy. This proposed law represents a significant policy shift from the traditional 'take-make-dispose' model for the Philippines. Key provisions of the Bill include creating a Circular Economy Inter-Agency Council (CE-IAC) to coordinate implementation, and a mandated phase-out of non-recyclable single-use plastics within five years of effectivity. It also proposes that every province, city,

and municipality is required to formulate a Local Circular Economy Action Plan (LCEAP) within two years. The bill also envisages innovative support mechanisms – a 'Circular Economy Incentive Code' for rewarding circular enterprises, a Regulatory Sandbox to pilot new circular business models, and a Circular Innovation Hub under the Department of Science and Technology.

Although the Bill is still under debate, this legislation is expected to align with and strengthen existing policies. It explicitly ties into the Ecological Solid Waste Management Act, the National Climate Change Action Plan, the Philippine Development Plan 2023–2028, and the Philippine Ecosystem and Natural Capital Accounting Act of 2024, **ensuring that circular economy objectives become part of the national development agenda.** For businesses, it is clear that regulatory trends are moving toward stricter requirements regarding waste reduction and resource circularity. If passed, this law would not only enforce plastic phase-outs and reporting, but also potentially offer incentives and institutional support for companies leading in circular innovation. SMEs should keep an eye on this emerging framework, as it may soon define compliance requirements (e.g. phasing out certain plastics) and opportunities (e.g. access to an innovation fund or incentive schemes) in the near future.

It's important to note however that while the Philippines has robust environmental laws and promising plans, effective implementation and enforcement remain challenging. For instance, the widely praised provisions of RA 9003 have been hampered **by insufficient funding for local implementation and lack of sustained enforcement** (SWITCH-Asia, 2025). Similarly, the ambitious EPR law requires building **significant recycling capacity and effective monitoring** to achieve its **80% plastic recovery goal by 2028** (WWF, 2024). Recognising these gaps, the government's new initiatives like the proposed CE Promotion Act and action plans explicitly aim to 'consolidate and enhance existing, but fragmented, environmental regulations', acknowledging shortcomings in enforcement of laws like RA 9003. For SMEs, this balanced view means that while there are many supportive policies on paper, one should be prepared for evolving regulations and gradually tighter enforcement as the government ramps up capacity. It also means opportunities for engagement, the private sector can play a role in helping implement these policies through partnerships (e.g. joining clean-up drives, co-developing recycling facilities, or participating in policy consultations to make regulations more practical and impactful).

1.3. Local Government Initiatives and Ordinances (Local Support)

Local governments in the Philippines serve as the frontline for circular economy implementation (Acosta et al., 2012; Camarillo and Bellotindos, 2021). Through ordinances and programmes, many cities and municipalities are translating national policies into concrete action and even pioneering their own initiatives. Local level, policy support for circular economy manifests as enforceable regulations (sticks) and as programmes or incentives (carrots) (Rebullida and Taguibao, 2023). Private enterprises should make it a point to comply with local environmentally-sound ordinances to avoid fines and reputational damage. They may also seek out programmes where they can collaborate with LGUs on programmes such as waste-to-cash, innovation challenges, or local sustainability awards for mutual benefit. Some of the key aspects of local-level support include:

Mandated Local Solid Waste Management Plans: Under RA 9003, every city and municipality must develop and enforce a solid waste management plan. LGUs are responsible for establishing waste segregation schemes, building MRFs, and operating local recycling or composting facilities. This means that SMEs at the local level may be subject to ordinances on garbage **segregation, collection fees, and disposal regulations.** Staying engaged with your LGU's waste management programmes can help businesses ensure compliance (e.g. following trash segregation rules) and even find opportunities like tapping into LGU-run composting for your organic waste or supplying recyclables (e.g. plastic) to the city's recycling centre.

Single-Use Plastic Bans and Regulations: A growing number of provinces and cities have enacted ordinances to restrict or ban single-use plastics (SUPs) such as plastic bags, straws, and Styrofoam containers. For example, Quezon City has passed multiple ordinances since 2011 to regulate plastic bags through imposing fees and eventually a ban (Schachter and Karasik, 2022). In 2021, Quezon City re-implemented a city-wide plastic bag ban to reduce waste. By 2025, the Quezon City government went further by banning disposables and single-use plastics within city hall premises and offices through an Executive Order No. 3, Series of 2025. The City Mayor emphasised that this policy aims to pioneer long-term solutions to reduce plastic use and advance sustainability, hoping to inspire other government units and private institutions to champion circular economy and sustainability.

Other cities such as Makati, San Fernando, Cebu City have their own versions of plastic regulations – ranging from banning plastic bags and Styrofoam in retail, requiring businesses to provide eco-friendly packaging alternatives, to 'bring-your-own container' programmes. These local rules often directly affect SMEs, especially in retail/food sectors, requiring them to adjust packaging practices or face penalties. Staying informed of your locality's ordinances is crucial; a few LGUs set fines or do not renew business permits for establishments that violate plastic bans.

'Zero Waste' and Recycling Programs: Some municipalities, in partnership with NGOs, have declared goals of becoming 'Zero Waste Cities.' They might introduce programmes like barangay-based trash collection with higher segregation, 'no plastic day' campaigns, or incentive schemes for recycling (e.g. exchanging recyclables for rice or groceries). For instance, cities like San Fernando, Pampanga and Tacloban have been cited as leading examples in community-based zero-waste programmes. Local businesses can support and benefit from these programmes by **ensuring their waste is properly sorted** (i.e., plastic), making it easier for the LGU to **recycle** and by possibly **sourcing secondary materials** from local junk shops or recycling centres that the LGU supports.

Green Public Procurement and Local Green Awards: Some progressive LGUs integrate circular economy principles in their own operations and procurement. Quezon City adopted a Green Public Procurement Ordinance (**SP-3107 S-2021**) which mandates the city to **avoid single-use plastics** in all city-led activities and **prefer reusable/recyclable alternatives**. This creates a market demand for sustainable products and services, which local SMEs can supply (e.g. catering services using reusable dishware, suppliers of compostable packaging). Additionally, a few LGUs and regional bodies run award programmes for eco-friendly businesses. For example, a province might award 'Green Business' titles annually. While not widespread yet, this trend is likely to grow, providing recognition and marketing advantages to SMEs that excel in circular practices.

Local Circular Economy Action Plans: As mentioned in emerging legislation, there is a push for every LGU to develop a dedicated Circular Economy Action Plan. Even ahead of formal mandates, some cities have begun identifying opportunities to improve circularity. Under the EU-funded 'Green Local Government Units' partnership, ten pilot LGUs (including Baguio, Pasig, Quezon City, Davao, etc.) have developed Circular Economy portfolios assessing local system gaps and opportunities – from plastic waste reduction to sustainable tourism. These local action plans help target areas where innovation or investment is needed. For businesses, this is significant because local governments may soon integrate CE goals into their development plans, potentially leading to new ordinances or programmes that affect business operations (e.g. requirements for take-back programmes, incentives for using recycled materials, etc.). Engaging with local development councils or committees can give businesses a voice in shaping practical CE action plans and ensure that their needs are considered.

Local-International Partnerships and Funding: Through collaborations with international organisations, local governments are accessing technical and financial support for circular initiatives. For example, the EU-Philippines Green Economy Programme and UNDP have launched a Circular Solutions Innovation Challenge to fund community-level circular business ideas, encouraging SMEs to propose solutions aligned with local priorities like plastic waste management. Selected innovators can **receive grants and support for implementation**. This kind of support framework means that SMEs have opportunities to pilot projects in partnership with LGUs, leveraging grants or public funds to scale up circular solutions. It's wise for businesses to network with their city's environmental office or local DTI/DENR units to stay informed about such opportunities (e.g. grants for setting up a recycling facility or recognition for innovative circular products).

Reflection

- Which regulations affect your business now or soon?
- What eco-friendly or circular alternatives could you offer, aligning with the existing regulatory or policy framework?
- How can your business become a solution provider for companies needing to comply with EPR?

1.4. Aligning Business Activities with Regulatory Trends

For SMEs, staying ahead of policy trends is a smart strategy who often has less buffer to absorb sudden regulatory changes. By proactively aligning with circular economy policies, businesses can ensure compliance, avoid penalties, and even gain competitive advantages (e.g. cost savings from efficiency or access to eco-conscious markets). Aligning early positions SMEs as forward-thinking, builds resilience, and leverage policy support to innovate their business models. Here are practical steps and tips for aligning business activities with current policies and emerging regulatory trends in the Philippines:

1. Ensure Basic Compliance with Existing Laws: Start by reviewing your operations against current environmental regulations. Proper waste management is a must – implement waste segregation in your facilities (as required by RA 9003) and coordinate with local waste collectors or recyclers for disposal. Non-compliance can lead to warnings or fines, and as enforcement is expected to tighten, having good waste practices now will save you trouble later. Large companies must implement EPR programmes for plastic packaging per RA 11898; SMEs supplying larger firms may be asked to participate, for example, to provide data on packaging or taking back product waste. Even if you're not mandated by EPR – which currently targets large enterprises – consider voluntary measures like collecting and returning used packaging to manufacturers or offering refills to position your brand as a sustainable while preparing you for future extensions of EPR rules.

Additionally, not only at the national level but also engaging with your host community or LGU is equally important. Contributing to local programmes such as recycling, serving as a drop-off point, or sourcing materials can build goodwill while reducing costs. Participating in consultation or public private initiatives also helps you anticipate upcoming regulations. The key is for SMEs can stay compliant, reduce plastic pollution, and open doors to new markets.

Tips

Start by mapping your operations – from sourcing and production to distribution. This process helps you clearly see where plastics are used, how waste is generated, and where improvements can be made to reduce your overall plastic footprint

2. Stay updated and Get Involved in Policy Dialogues: Circular economy policies are evolving, and new rules (e.g. updates to EPR law or local ordinances) may affect your business. The practical way to stay informed is by joining industry associations or chambers that regularly engage with government and share information with members. You can also take part in consultations run by agencies like DENR or DTI, receiving practical policy insights. By voicing your concerns, you help ensure that regulations are fair, practical, and inclusive. Joining activities with organisations like ERIA can also provide platform for you to policy input.

3. Monitor and Prepare for Upcoming Bans/Restrictions: Keep an eye on policy developments such as the proposed nationwide single-use plastics phase-out (SEPO, 2023). Even before national bans come into force, many localities have their own bans. It's prudent to phase out certain single-use or hard-to-recycle materials in your product lines or operations. For instance, if you run a restaurant or retail store, start shifting to biodegradable or reusable packaging. If you manufacture products, while undertaking your own R&D may not be realistic, a practical step is choosing better options or alternatives available in the market, such as recyclable materials or refillable containers. At the very least, SMEs can participate in capacity-building programmes and educate staff and customers to build awareness and prepare for future compliance. Early movers will have an easier transition and potentially capture eco-conscious consumers. Recall that the mooted CE legislation gives a five-year timeline for total phase-out of specific SUPs – which is not very long in business planning terms.

4. Leverage Incentives and Support Programs: Take advantage of government incentives available for circular economy initiatives. This might include tax incentives under the Green Jobs Act for green technologies, zero-VAT or duty exemptions for importing recycling equipment, or income tax holidays if your project is listed in the investment priority plan. Stay informed through DTI or BOI about any 'green enterprise' incentive schemes – for example, if a Circular Economy Incentive Code is enacted, ensure you register to avail its benefits. Also, explore grants and technical assistance from programmes like the EU Green Economy Partnership or DENR's pilot projects. Many development partners (e.g. UNDP, USAID, GIZ, etc.) run contests, challenges, or incubators for sustainable business ideas in the Philippines. For SMEs, these can provide crucial funding or mentorship. Do not hesitate to propose projects that align with national priorities (e.g. plastic recycling, organic waste conversion, eco-design for products) as there is a strong policy push and funding focus in these areas.

5. Adopt Voluntary Standards and Certifications: Sometimes policy support comes in the form of standards or certifications that, while voluntary, are encouraged. Programs like the Green Choice Philippines eco-label (a sustainability seal for products) are recognised in government procurement and by consumers (SWITCH-Asia, 2025). Similarly, ISO environmental management certifications or Extended Producer Responsibility accreditation can set you apart. By complying with these standards or helping bigger enterprises to comply, you demonstrate readiness or exceed regulatory requirements. It also prepares you for future policies that might make aspects of these standards mandatory (for instance, required sustainability reporting or eco-design standards).

6. Educate and Involve Your Team and Suppliers: Policies can change on paper, but their effectiveness depends on behaviour change. Invest in training your employees about waste reduction, recycling, and compliance procedures. Create simple handbook materials or checklists so that everyone in your company knows how to comply with laws (e.g. how to segregate waste, what materials to avoid purchasing, etc.). Capacity building is key: investing time in staff awareness reduces risks and opens new opportunities, making your business more attractive to larger enterprises who pay attention to sustainability reporting and often expect SMEs suppliers to provide data or comply with their standards. Extend this awareness to your suppliers and partners: communicate your commitment to circular practices and preference for compliant, sustainable inputs.

1.5. Key Takeaways for Private Sector and SMEs

The policy and framework support for circular businesses in the Philippines is evolving rapidly in favour of sustainability. Businesses that actively engage with and respond to these policies will not only ensure compliance but can thrive – turning regulatory alignment into a catalyst for innovation, efficiency, and brand value. The government's message is clear: it aims to 'build an economy where nothing is wasted, and no one is left behind'. Private sector and SMEs are key players in achieving that vision, backed by an enabling policy environment that is increasingly reorienting the rules of the game towards circular economic principles.

Multiple levels of support: Both national and local policies in the Philippines are increasingly geared towards supporting circular economy practices. RA 9003 and RA 11898 require businesses to manage waste and resources more sustainably, while plans like PAP4SCP and various LGU ordinances provide a future framework and direction. SMEs can use these as guidelines for strategic planning.

Aligning with policy is strategic: Compliance should be viewed not just as a legal obligation but as a strategic move. Aligning with circular economy policies helps businesses avoid penalties (e.g. for improper waste disposal or plastic use) and positions them for government incentives and programmes. For example, a company that proactively eliminates certain plastics or invests in recycling may gain easier compliance certifications, public recognition, or even tax perks under green initiatives.

Challenges and opportunities: The enforcement of environmental policies in the Philippines remains uneven due to infrastructure gaps (SWITCH-Asia, 2025), but this also opens space for SMEs to offer solutions. Entrepreneurs who step in can benefit from policy support such as piloting plastic waste collection or supporting recycling.

Global and regional alignment: Philippine businesses, especially those with international supply chains or markets, should note that domestic policy trends mirror global moves (ASEAN, UN, etc.). Adopting circular practices not only satisfies Philippine regulations but also aligns with broader trends like the ASEAN Circular Economy Framework and the UN Sustainable Development Goals. This can enhance competitiveness abroad, as more export markets require environmental compliance from suppliers.

Capacity Building and Support Materials: Ultimately, it's recommended that SMEs utilise hands-on materials and training to build internal capacity on circular economy. This can include checklists for regulatory compliance, toolkits on waste auditing, and case studies of successful circular businesses. Government and organisations like ERIA often offer training workshops and platforms. In this capacity-building handbook, you may find exercises like mapping your business processes against the CE policies (to identify gaps and opportunities), or role-playing compliance scenarios. These hands-on activities reinforce learning and make the policy landscape less abstract, showing how it concretely affects business decisions.

2. Gaps: Regulatory, Incentives, and Levers Needs to Enable Ecosystems for SMEs to go Circular

2.1. General Introduction

In the Philippines, micro, small, and medium enterprises form the backbone of the economy (over 99% of business establishments). However, most SMEs have yet to adopt circular economy (CE) practices on a scale, due to a range of systemic gaps in their operating environment. A supportive ecosystem is crucial to enable SMEs to adopt circular practices, but common regulatory, financial, and infrastructural gaps currently hinder this transition. Below we assess these gaps and discuss actionable strategies –including policy reforms, incentives, collaboration hubs, and innovation support– to enable ecosystem for SME circularity in the Philippines.

2.2. Key Regulatory and Policy Gaps

In the Philippines, national regulations and strategies for CE remain fragmented, without a unified direction. Since 2010, the country's approach to waste management and CE has been largely fragmented, with proposals often reactive to current events and little follow-through on implementation. A study by Katigbak and Villaruel (2023) on the adoption of CE by Women led SMEs noted that there is currently lack of strong momentum driving the circular economy transition in the Philippines. Out of 415 CE-related bills and resolutions filed in Congress, only one of the Extended Producer Responsibility Act of 2022 has been enacted (PIDS). This points to a significant policy gap, as most circular economy bills (e.g. proposals on sustainable packaging, recycling, etc.) have stalled. Although a House Bill 7609 on CE is pending, no comprehensive national CE roadmap or law exists resulting in scattered initiatives rather than a cohesive strategy.

At the institutional level, there is a lack of coordination and clear responsibility for promoting CE amongst SMEs. Survey of stakeholders note insufficient cooperation between agencies and levels of government in developing and enforcing relevant policies (WWF, 2024; Katigbak and Villaruel, 2023). For example, LGUs need stronger guidance and alignment with national policies considering the critical roles they play in implementing waste management and CE programmes. Currently, many SMEs remain unaware of existing environmental programmes – in a recent survey of women-led MSMEs in Metro Manila, **65.5%** of respondents had never heard of any government-led CE initiatives, and another **32.8%** had only limited knowledge of specific projects (Katigbak and Villaruel, 2023). There exists CE

awareness gap amongst SMEs indicating that even when policies and programmes are in place, they often fail to reach their intended audience, reflecting weaknesses in outreach and institutional support. Moreover, certain regulations remain cumbersome for SMEs, imposing compliance burdens that can stifle innovation. Apparent bureaucracy and complex permitting processes may also pose significant barriers to implementing circular solutions (Gue et al., 2020). The regulatory/institutional environment does not yet provide clear signals or adequate support for SMEs to invest in circular business models.

2.3. Financial and Incentive Gaps

Another major challenge is the lack of financial incentives and accessible green financing for SMEs. Transitioning to circular practices may often require upfront investments but SMEs typically have limited capital and struggle to access finance for such initiatives (Loreño and Huang., 2025). Traditional lenders may view small businesses or unproven circular models as high-risk, leading to a credit gap. In fact, an ADB study estimated a huge financing shortfall for SMEs in sustainable projects across developing Asia, pointing to the need for innovative funding solutions (ADB, 2022).

In the Philippines, while the central bank has begun promoting sustainable, SMEs require more direct support and incentives from policymakers. At present, government incentive programmes to encourage SME sustainability are nascent – there are few tax breaks, grants, or subsidies specifically aimed at circular economy adoption by small businesses. According to industry experts, 'more than the stick, it's the carrot that will be more helpful' to spur green transitions amongst SMEs. They suggest that additional tax perks, fiscal incentives, and accessible green loans would help small firms invest in clean energy, waste reduction, and other circular practices. The absence of such incentive structures is a gap that leaves many SMEs without the business case or resources to pursue circular innovations.

Furthermore, many entrepreneurs are not aware of sustainable financing options or how to tap them (Katigbak and Villaruel, 2023). Loreño and Huang (2025) underscore the need for the development of green financing products tailored for SMEs, such as micro-loans for cleaner technology or performance-based incentives (e.g. rebates for achieving waste reduction targets). It worth noting however that, the Philippine Sustainable Finance Roadmap recognises that mobilising capital is critical and explicitly notes that policymakers should support the shift to a circular economy by providing incentives, enacting supportive policies, and improving access to financing. Bridging this financing gap is essential because without it, even well-intentioned SME owners may find it unviable to invest in circular solutions given other operational pressures.

2.4. Infrastructure and Institutional Gaps

SMEs also face infrastructural barriers that make circular plastic operations difficult. A fundamental issue is the limited waste management and recycling infrastructure in many localities. For instance, the Philippines generates an estimated 61,000 metric tons of waste per day (as of 2023) but only about 28% of plastic waste is recycled – the rest is landfilled or leaks into the environment (Constantino et al., 2023; Colaljo et al., 2024). This indicates that the capacity to collect, sort, and recycle materials at scale is insufficient. In practical terms, an SME that wishes to recycle or upcycle its waste may find that facilities are unavailable or too costly to access. Further, lack of municipal composting centres, recycling plants, and efficient logistics for reverse supply chains undermines circular efforts. To ensure infrastructure keeps pace with regulatory goals, upgrades to existing waste management system is needed to effectively implement new laws like the EPR Act and even the RA 9003.

Beyond waste facilities, studies have shown that there is a paucity of 'circular hubs' or shared resources to support SMEs (ADB, 2022; Katigbak and Villaruel, 2023). At a broader institutional level, platforms for collaboration and knowledge-sharing are limited. SMEs often operate in silos; there are gaps in connecting them with research institutions, larger supply-chain partners, or mentors that could help implement circular solutions (Aldaba et a., 2010). According to surveys, entrepreneurs cite the 'lack of access to relevant networks and partnerships' as one of the primary obstacles to CE adoption (Katigbak and Villaruel, 2023). This indicates a need for stronger institutional support networks (industry associations, innovation labs, etc.) focused on circular economy. Summarily, upgrading physical infrastructure (waste and recycling systems) and building 'soft infrastructure' (networks, hubs, data and knowledge systems) is vital for an SME-friendly circular ecosystem.

2.5. Strategies and Enablers to Overcome the Gaps

To overcome the gaps above, a multi-level strategy is required – addressing policy, finance, and infrastructure in an integrated manner. The Philippine government and its partners can employ the following enablers and levers to build a supportive CE ecosystem:

Strengthen the Policy Framework and Governance: Support an overarching National Circular Economy Roadmap or law to harmonise existing initiatives and guide all stakeholders under a common vision. This would fill the strategic gap and set clear targets for industries, including SMEs. Simplifying cumbersome processes (e.g. permits for recycling or utilising recovered materials) and regularly consulting with businesses can remove unnecessary barriers. Better coordination is needed both horizontally (across agencies) and vertically (national to local). Further, a dedicated inter-agency body or task force on circular economy, including representation from DTI, DENR, and other key agencies could ensure alignment of efforts. Importantly, national policies must be translated to local action with appropriate guidance along with capacity building of LGUs to implement and enforce CE initiatives on the ground. Ensuring that provincial and city governments have the guidance (and budgetary support) to assist SMEs will help bridge the policy-to-practice gap. Ultimately, it is crucial to establish a monitoring mechanism to track progress (e.g. metrics for waste reduction, resource reuse by SMEs), helping stakeholders accountable and allowing adjustments to policies over time.

Provide Incentives and Improve Access to Finance: Incentivising SMEs is critical to overcome the financial hurdles of going circular. The government can introduce a package of fiscal and market incentives: for example, tax credits or deductions for companies that invest in resource-efficient technology, reduced import duties on eco-friendly equipment, or results-based subsidies for achieving recycling targets. In parallel, improving access to financing for green projects is essential. This could include expanding government-backed green credit lines or guarantee funds that reduce lenders' risk in extending loans to small businesses for CE initiatives (Katigbak and Villaruel, 2023). Multilateral and private sector partnerships, like green bonds, impact investment funds, or venture capital for circular startups, should be leveraged to channel capital to SMEs. The Bangko Sentral ng Pilipinas' Sustainable Finance Roadmap underscores that the right mix of policies, incentives, and financing access will be key to mobilising capital for circular economy transitions (ADB, 2022). Some recommended practical steps to lower financial barriers involve working with banks to create small green loans (with lower interest or longer terms or setting up grant programmes/competitions for circular plastic solutions).

Capacity Building and Awareness: Bridging the knowledge gap is another vital lever. According to Katigbak and Villaruel (2023) and Gue et al. (2020), many entrepreneurs still lack understanding of what the circular economy means for their business and what opportunities it offers, especially amongst women led SMEs. Education and training programmes should be scaled up to increase awareness and skills. This can include CE workshops, mentorship programmes, and integration of CE into existing SME training by organisation or technical institutes. Targeted education campaigns and specialised CE training (e.g. eco-design of products, waste-to-value business models, compliance with new regulations like EPR, etc.) can bridge the knowledge gap and increase awareness. Awareness-raising can also be pursued through demonstration projects – for instance, showcasing successful SME circular pilots in food waste composting, plastics recycling, sustainable fashion to inspire peer learning. Recognising that resistance to change can be strong, especially if benefits are unclear, it is important to communicate the business case for circularity: how it can reduce costs, open new markets, and improve resilience. Overall, building human capacity and knowledge networks will empower SMEs to innovate and take advantage of incentives and policies, rather than shy away due to uncertainty.

Infrastructure Development and Circular Hubs: Addressing infrastructure gaps will likely require public-private collaboration and investment. Key actions include improving waste management infrastructure, expanding recycling centres, composting facilities, and materials recovery facilities in more localities, so that circular practices are logistically feasible. For example, raising the national recycling rate above the current 28% for plastics will require not only mandates but also facilities and collection systems to handle higher volumes (Katigbak and Villaruel, 2023). Another strategy is establishing shared facilities or hubs for circular activities. For instance, common recycling equipment, repair workshops, or material exchange platforms. The government and partners are beginning to explore solutions, such as eco-industrial parks and innovation hubs. One proposal is to establish mini eco-parks in economic centres where firms (especially SMEs) share CE-related facilities, technologies, and technical know-how. For example, Circular Economy (ICE) Hub in Pasig City, a local government-run centre for CE services and innovation. Additionally, improving digital infrastructure, like e-commerce or exchange platforms for secondary materials can connect waste generators with recyclers or upcyclers, thereby creating new markets for recycled goods.

Collaboration and Innovation Support: Fostering a collaborative ecosystem is a low-cost but high-impact lever (Kanda et al., 2025). SMEs benefit greatly from networks where they can learn and partner. Thus, enabling public-private partnerships and industry collaborations is important. Collaborative programmes not only spark innovative ideas but also allow pooling of resources. For instance, a large company can mentor or include SMEs in its circular supply chain such as a big manufacturer sourcing recycled material from local MSMEs. The government's role would be to act as a convener and remove hurdles to collaboration. Existing multi-stakeholder projects (e.g. the Zero Waste to Nature programme, or eco-brick making initiatives with communities) can be scaled and replicated, as they connect enterprises with community and environmental groups.

Engaging SMEs and Stakeholders in the Transition

Closing these gaps requires active participation from SMEs and other stakeholders in shaping solutions. Policies and programs work when informed by real business experiences and designed to be inclusive. Entrepreneurs, business groups, and chambers should be engaged through advisory councils, dialogues, or workshops to share needs and feedback. This ensures accessible interventions, such as grants, financing, or training, while involving women-led and underrepresented SMEs.

References

Acosta, V., J. Paul, C. Lao, E. Aguinaldo, and M.D.C. Valdez (2012), 'Development of the Philippines national solid waste management strategy 2012–2016', *Procedia Environmental Sciences*, 16, pp.9–16.

ADB (2022), Financing Small and Medium-Sized Enterprises in Asia and the Pacific Credit Guarantee Schemes. Asian Development Bank.

Aldaba, R., E. Medalla, F. del Prado, and D. Yasay (2010), *integrating SMEs into the East Asian region: Philippines*. Philippine Institute for Development Studies.

Bueta, G.R.P. and S.N. Domingo (2023), Study on Circular Economy Pathways for Waste Management in the Philippines (No. 2023-46). PIDS Discussion Paper Series.

Camarillo, M.E. and L.M. Bellotindos (2021), 'A study of policy implementation and community participation in the municipal solid waste management in the Philippines', *Applied Environmental Research*, 43(2), pp.30–45.

Colaljo, F.M., K.R.Basit, R.J. Jaudian, A.R. Alce, P.R. Castor, P.J. Bokingkito, A. Marajas, S.M. Caparida and A. Galido (2024), 'Development of an Image-Based Reverse Vending Machine Using Raspberry Pi', In *Novel & Intelligent Digital Systems Conferences*, pp.102–12. Springer Nature Switzerland.

Constantino, G., S. Macagba, J. Eligue, and F. Paro (2023), 'The Role of Place Attachment in Building Community-Based Solid Waste Management Practices in the Municipality of Calauan, Laguna', *Journal of Human Ecology and Sustainability*, 1(1), p.8.

Figueroa, A.M.I., L.L. Pintor, G.P. Sapuay, A.A. Ancheta, V.A. Atienza, W.P. Hintural, M.I.V. Abris and S.K. Ghosh (2021), Circular Economy Strategies and Implementation in the Philippines. *Circular Economy: Recent Trends in Global Perspective*, pp.219–57.

Gue, I., M. Promentilla, R. Tan, and A. Ubando (2020), 'Sector perception of circular economy driver interrelationships', *Journal of Cleaner Production*, 276, 123204.

Kanda, W., M. Klofsten, D. Bienkowska, D.B. Audretsch, and M. Geissdoerfer (2025), 'Orchestration in mature entrepreneurial ecosystems towards a circular economy: A dynamic capabilities approach', *Business Strategy and the Environment*, 34(4), pp.4747–65.

Katigbak, J.J.P. and J.J.C. Villaruel (2023). '*Assessing the adoption of circular Economy among Women-Led MSMEs in Metro Manila: a pilot study*', (No. 2023-30). PIDS Discussion Paper Series.

Loreño, D.T. and Y.C. Huang (2025), Strategies for Sustainable Development Leveraging MSMEs in the Philippine Blue and Green Economy: Innovation for Sustainability and Financial Empowerment for a Sustainable Transition. In *Securing Sustainable Futures Through Blue and Green Economies* (pp.299–330). IGI Global Scientific Publishing.

Mubarik, M.S., A. Kontoleon, and M. Shahbaz (2024), 'Beyond the hurdles: Exploring policy obstacles in the path to circular economy adoption', *Journal of Environmental Management*, 370, 122667.

Purushothaman, R., R. Alamelu, and M. Sudha (2025), 'Bridging the Circular Economy Knowledge Gap in SMEs: A Systematic Review of Adoption Barriers, Implementation Strategies, and Theoretical Insights', *Circular Economy and Sustainability*, pp.1–20.

Rebullida, M.L.G. and J.G. Taguibao (2023), 'Urban Environmental Governance and Sustainable Development: Empowering National and Local Governments for Solid Waste Management in the Philippines', In Tadem, T.S.E. and M.E.L Atienca (eds.) *A Better Metro Manila? Towards Responsible Local Governance, Decentralization and Equitable Development* (pp.371–406). Springer Nature.

Salvacion, J.M. and K. Campos (2024), 'Transforming waste in the Philippines: Circular economy's impact on business and environment', *Journal of Process Management and New Technologies*, 12(3–4), pp.101–17.

WWF (2024), The Impact of Extended Producer Responsibility: A One-Year Review of EPR in the Philippines. White Paper. WWWF.