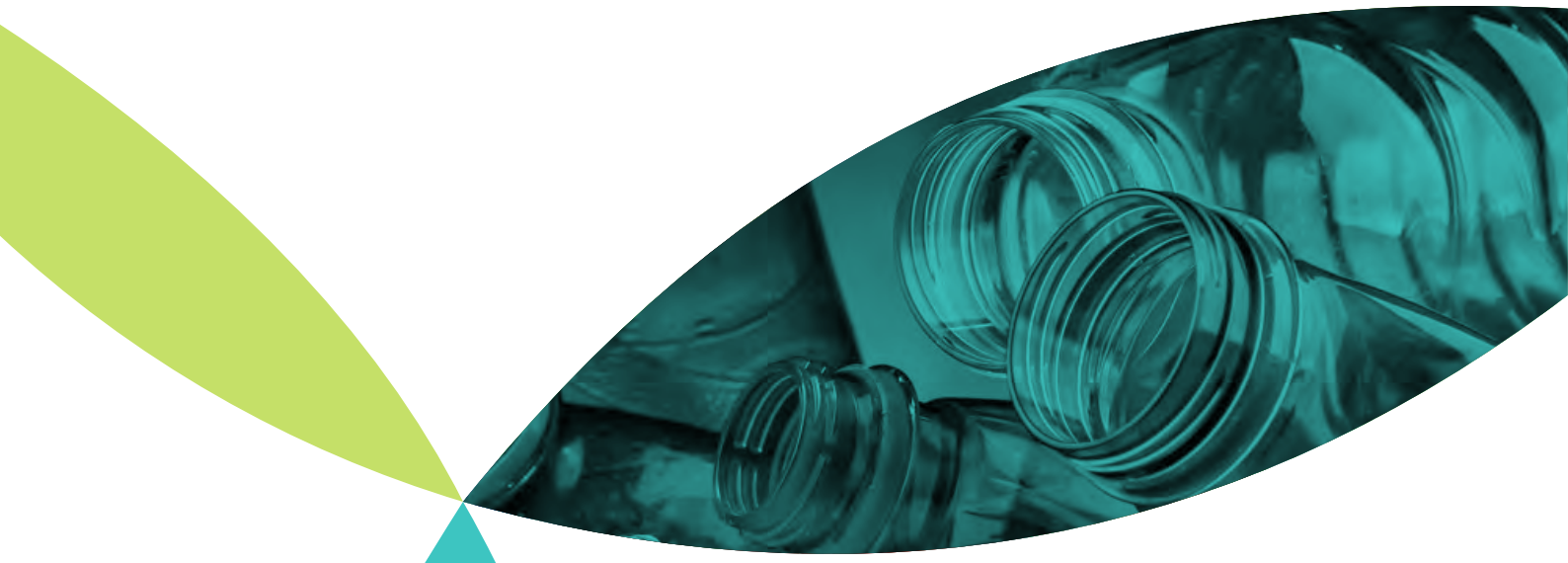
IMPLEMENTATION **GUIDELINES** ON

COLLECTION, DIVERSION, Recycling and Single-use PLASTICS

for NATIONAL POLICY ON PLASTIC WASTE MANAGEMENT



FEDERAL REPUBLIC OF NIGERIA

DECEMBER 2024

IMPLEMENTATION GUIDELINES ON COLLECTION, DIVERSION, RECYCLING AND SINGLE-USE PLASTICS

for

NATIONAL POLICY ON PLASTIC WASTE MANAGEMENT

FEDERAL MINISTRY OF ENVIRONMENT

UNITED NATIONS INDUSTRIAL ORGANISATION DEVELOPMENT

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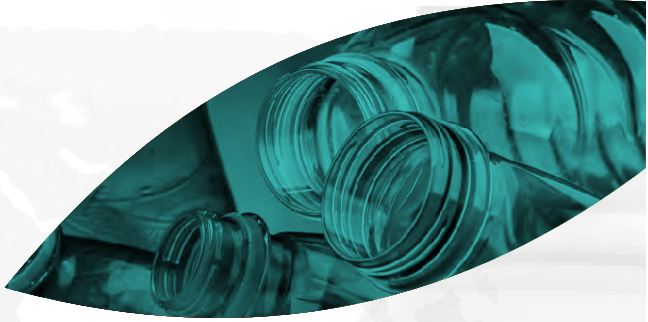

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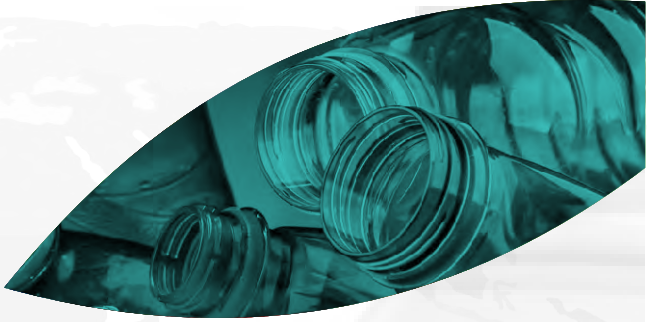

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Glossary

5Rs	Reduce, Repair, Reuse, Recycle and Recovery
AHPs	Absorbent Hygiene Products
APCO	Australian Packaging Covenant Organisation
Bio-PBS(A)	Polybutylene Succinate
C&D	Construction and Demolition
DRS	Deposit Return Schemes
EPR	Extended Producer Responsibility
EPS	Expanded Polystyrene
EU	European Union
FMEnv	Federal Ministry of Environment
HDPE	High - density Polyethylene
IPCC	Intergovernmental Panel on Climate Change
LCA	Life - Cycle Assessment
LDPE	Low - D ensityP olyethylene
LEAMS	Local Environmental Audit and Management Systems
LEQSE	Local Environmental Quality Survey of England
LGA	Local Government Authority
MARPOL	International Convention for the Prevention of Pollution from Ships (short for "Marine Pollution")

MCS	Marine Conservation Society
MRF	Material Recovery Facility
PET	Polyethylene Terephthalate
PHA	Polyhydroxyalkanoate
PLA	Polylactic Acid
PRO	Producer Responsibility Organisation
PS	Polystyrene
PSP	Private Sector Participation
PP	Polypropylene
PPP	Public - Private Partnership
PWMP	Plastic Waste Management Plan
RVM	Reverse Vending Machine
SDG s	Sustainable Development Goals
SUPs	Single Use Plastics
TSL	Transfer Loading Station
WCV	Waste Collection Vehicle
WTTC	World Travel and Tourism Council
UN	United Nations
UNEP	UN Environment Programme
UNIDO	United Nations Industrial Development Organization
VAT	Value Added Tax
MSW	Municipal Solid Waste
NESREA	National Environmental Standards and Regulations Enforcement Agency
NPPWM	National Policy on Plastic Waste Management
NPSWM	National Policy on Solid Waste Management

Foreword

As we stand at the crossroads of environmental sustainability and economic growth, it is imperative to manage plastic waste effectively in order to conserve and protect our natural environment. The National Plastic Waste Management Policy represents a transformative approach to addressing one of the most pressing environmental challenges facing Nigeria today. With rapid urbanization and rising consumption, the proliferation of plastic waste poses significant threats to our ecosystems, public health and the future of our communities.

This guideline serves as a comprehensive framework for effectively implementing the policy. It provides actionable strategies for government agencies, private sector stakeholders, non-governmental organizations, and local communities. It also recognizes the importance of addressing plastic waste as well as, the collaborative efforts required in integrating awareness, innovation and sustainable practices.

The guidelines outlined herein are intended not as theoretical concepts but as adaptable, practical steps that respond to Nigeria's diverse contexts. From enhancing recycling initiatives to promoting biodegradable alternatives, we must foster a circular economy that values waste as a resource. By empowering our citizens with knowledge and tools, we hope to foster a culture of environmental stewardship and shared responsibility.

In the journey ahead, the success of this policy rests on our shared commitment to collaboration and inclusivity. We invite all stakeholders to engage actively in its implementation, share insights, and co-create innovative solutions to drive real change in Nigeria's plastic waste management.

Together, we can turn the tide on plastic pollution, paving the way toward a cleaner, healthier, and more sustainable future for generations to come.

Balarabe Abbas Lawal
Minister of Environment

Acknowledgment

The Federal Ministry of Environment extends its gratitude to the United Nations Industrial Development Organization (UNIDO) for its invaluable support and collaboration in developing the Guidelines for the Implementation of the National Plastic Waste Management Policy in Nigeria. This initiative represents a significant step towards sustainable plastic waste management across our nation.

The partnership between UNIDO and the Ministry has been instrumental in aligning our efforts with international best practices while ensuring the guidelines reflect Nigeria's unique challenges and opportunities. We also extend our sincere appreciation to the Environmental Consultancy, Eunomia Research & Consulting Ltd whose expertise and commitment have been pivotal in advancing this important agenda.

The Federal Ministry of Environment therefore wishes to express its profound gratitude to the Government of Japan for supporting Nigeria's efforts to tackle plastic waste pollution by funding this project.

The invaluable contributions of various stakeholders, including government agencies, industry representatives, and non-governmental organizations is also acknowledged. Your insights and expertise have been essential in shaping a comprehensive and actionable guideline.

Together, we are paving the way for a cleaner, greener future. We are grateful for the collaborative spirit that has brought this initiative to life, and thank you all for your dedication and commitment to advancing plastic waste management in Nigeria.

Mahmud Adam Kambari
Permanent Secretary
Federal Ministry of Environment

Summary

In 2021, the Federal Government of Nigeria launched the National Policy on Plastic Waste Management (NPPWM). The policy recognises the twin challenges of increased per capita consumption of plastic in the country and the lack of capacity to tackle the resulting plastic waste. The policy aims to reduce plastic waste generation and plastic pollution in the environment in line with Nigeria's commitments as a signatory of the Basel Convention, the MARPOL Convention, the SDGs and the UN Climate Change Convention among others.

The aim of the NPPWM is to 'promote sustainable use of plastic as a resource through its life cycle management'. To achieve this, the national policy sets out a range of policy goals and objectives intending to improve waste management, reduce greenhouse gas emissions, restrict the use of single use plastics (SUPs) and encourage circularity in the plastic value chain. The NPPWM recognises the vital role which states and local governments in Nigeria play in delivering these objectives, particularly as much action needs to take place at a local level to have the greatest impact.

This document contains recommended guidelines that were developed between March 2023 and November 2024 to support the implementation of the NPPWM. The development of these guidelines involved three stages of

review and adjustment with a guideline drafting committee (including representatives of the Federal Government of Nigeria, NESREA, local authorities, waste management authorities, and industry stakeholders). On completion of the three stages of adjustment, the guidelines were validated by stakeholders at workshops held in September and October 2024. The recommended guidelines aim to support the implementation of three aspects of the NPPWM, where State and Local Government have a role to play:

- **Focus Area 1:** Improved collection of plastic waste and diversion from dumpsites and landfill;
- **Focus Area 2:** Improved recycling of plastic waste; and
- **Focus Area 3:** Elimination, reduction and circulation of SUPs.

These guidelines are split into two parts:

- **Part One** incorporating two focus areas: 'Collection, Diversion and Recycling'; and
- **Part Two** encompassing the third focal area: 'Single-use Plastics'.

For each focus area, the guidelines suggest actions and implementation considerations for State and Local Governments. It is important to note that this document focusses on meeting the requirements of the policy **as the minimum that states and local governments must achieve.** States and local governments can exceed these requirements and targets if they so wish. In addition, these guidelines are envisioned to be dynamic, with a need for further revision over time to reflect changes in the policy and industry landscape, and to reflect learnings from initial implementation of the relevant parts of the NPPWM.

The following sections provide a high-level overview of the content and structure of these recommended guidelines.

Collection, Diversion and Recycling

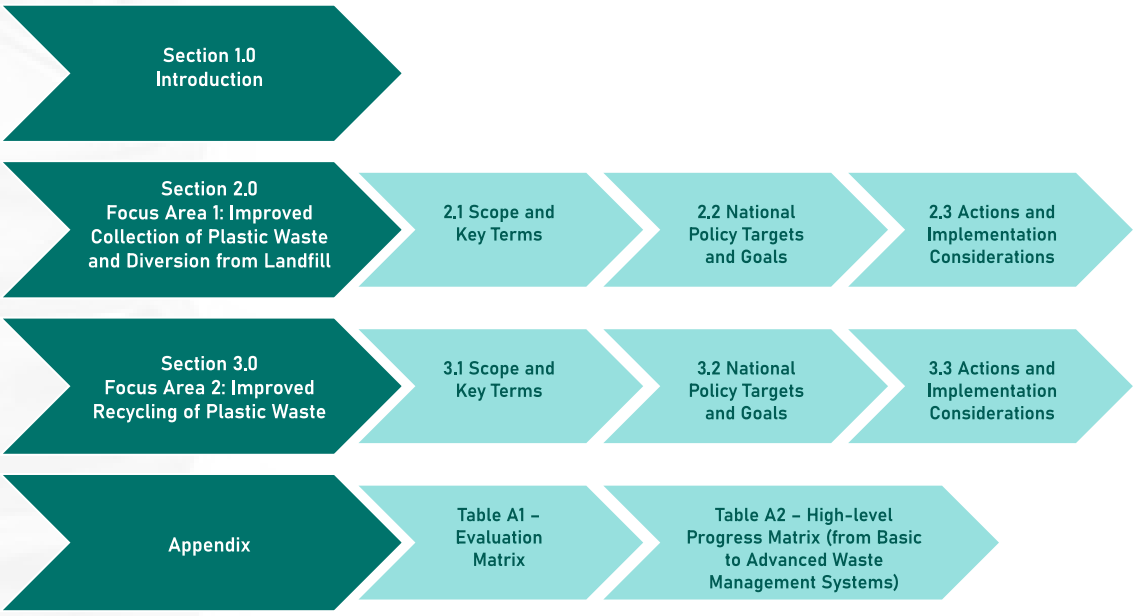
Part One Provides guidelines to support the Federal Government's goals and targets in the NPPWM for the improvement of plastic waste management. Two key sub-sections address particular focus areas:

Section 2.0 – Focus Area 1: Improved Collection of Plastic Waste and Diversion from Dumpsites and Landfill

Section 3.0 – Focus Area 2: Improved Recycling of Plastics Waste

Each of Section 2.0 and Section 3.0 follows the same structure, as shown in Figure 11. A brief explanation of the content of each section is provided under the relevant sub-headings below.

Figure 1-1: High-level Structure of Part One – Collection, Diversion and Recycling



INTRODUCTION

Section 1.0 Provides a brief introduction and context for Part 1.

SCOPE AND KEY TERMS

Sections 2.1 and 3.1 Explain key terms and the scope of Part One of the guidelines. With respect to scope, it explains the sources of plastic waste to which the guidelines are intended to apply. With respect to key terms, it provides definitions for terminology used in the relevant section, which are derived from Nigerian policy documents and, where necessary, international sources.

NATIONAL POLICY TARGETS AND GOALS

Sections 2.2 and 3.2 Explain the policy targets and goals from the NPPWM that relate to improving plastic waste collection, diversion from dumpsites and landfill and recycling, which informed the drafting of Part One of these recommended guidelines.

ACTIONS AND IMPLEMENTATION CONSIDERATIONS

Sections 2.3 and 3.3 Encompass the key actions for State and Local Governments to consider that address NPPWM policy targets and goals related to improved collection, diversion and recycling of plastic waste. Implementation considerations are also provided and include the risks involved with each key action and the timeline for implementing actions. State and Local Governments should be aware of these considerations to ensure that actions are effective, feasible and do not hinder national targets and goals in the local context.

Section 2.3, Covering **Focus Area 1**, is split into three sub-sections:

- **Section 2.3.1– Improved Collection of Plastic Waste:** Provides high-level guidance on how State and Local Governments with waste collection and litter management responsibilities could make decisions best suited for their local context. This section is broken down into six important processes (each their own sub-section). Each process feeds into the next and encompass their own sets of key actions and considerations (see Figure 12).

- **Section 2.3.2 – Diversion from Dumpsites and Landfill:** Provides considerations for moving from basic to more advanced waste disposal systems (according to a waste disposal hierarchy).

- **Section 2.3.3 – Funding:** Contains considerations on the funding of improved collection services and increased diversion from dumpsites and landfill.

Figure 1-2: Processes covered in Section 2.3.1 (Part One)

Section 3.3, covering Focus Area 2, is split into two sub-sections:

- **Section 3.3.1 – Improved Recycling of Plastic Waste:** Provides high-level guidance on how State and Local Governments with waste management responsibilities could make decisions best suited for their local context in terms of making improvements to recycling. This section is also broken down into six important processes (each their own sub-section), where each process feeds into the next and encompass their own sets of key actions and considerations (see Figure 13).

- **Section 3.3.2 – Funding:** Contains funding considerations that are relevant to improving recycling systems for plastic waste.

Figure 1-3: Processes covered in Section 3.3.1 (Part One)

Single-use Plastics

Part Two Provides guidelines to State and Local Governments in supporting the Federal Government's goals for the elimination and reduction of SUPs.

A brief explanation of the content of each section is provided under the relevant sub-headings below.

INTRODUCTION

Section 1.0 Provides a brief introduction and context for Part 2.

SCOPE AND KEY TERMS

Sections 2.1 Provides definitions for key terms and the SUP items in scope of Part Two of the guidelines. This provides a consistent basis for interpretation and implementation of measures related to SUPs in the NPPWM, by all State and Local Governments, both for items and control measures listed in Annex II, as well as those that are mentioned in the main body of the policy document but not in Annex II. Clarification is also provided on which SUP items are mandatory to tackle under the NPPWM, and additional items that may be targeted by states on a voluntary basis.

Table 2.1 Provides a summary of both mandatory and voluntary SUP items and their descriptions.

NATIONAL POLICY TARGETS AND GOALS FOR SUPs

Section 3.0 Explains the national policy targets and goals for SUPs as required by the NPPWM and the timeline for implementing individual measures, which are summarised in the image below. This includes explanations of what these targets mean in practice for State and Local Governments, detailing their specific roles and responsibilities and the mechanisms by which they can achieve target reductions in SUPs as outlined in the NPPWM.

Figure 1-4: NPPWM goals related to SUPs

ACTIONS AND IMPLEMENTATION CONSIDERATIONS

Section 4.0 encompasses the key actions that State and Local Governments can take to eliminate or reduce SUPs and discusses the associated risks that should be considered before implementation. Considerations around the availability of different types of alternatives when identifying measures to tackle specific SUPs are highlighted, as well as the pros and cons of different measures.

Section 4.1 provides a description of different types of alternatives (single use non-plastic and multiple-use; bio-based, compostable and bio-degradable) are provided. For each, the potential benefits and risks are highlighted, in the context of different potential measures to tackle SUPs depending on the availability and suitability of alternatives.

Section 4.2 provides detailed discussion of 6 different measures to tackle SUPs derived from the NPPWM and deemed suitable for state-level implementation that can be used to reduce or eliminate SUPs.

Discussion of each of the 6 policy actions covers the following information:

- Identification of SUP items that are likely to be suitable (or not) for the specific measure in Nigeria.
- A summary of the NPPWM provisions associated with the measure, further clarification where needed and recommendations to State and Local Governments on where more detail should be sought from the Federal Government.
- Implementation considerations for the policy from the perspective of state and local government that are looking to implement (or support the implementation of) each measure.
- A suggested timeline for implementation.
- Risks associated with the measure that should be considered by State and Local Governments.

PHASED BAN

Section 4.2.1 covers the use of phased bans to reduce and eliminate SUPs using the above structure for discussion. In addition to the above points, the following case studies are also examined in this section:

Table 4.1 – Water sachet collection pilot in Nigeria.
Table 4.2 – Single-use foam container ban in New York City.
Table 4.3 – Plastic bag ban in Rwanda.
Table 4.4 – Plastic carrier bag ban in Tanzania.

CONSUMER FACING CHARGES

Section 4.2.2 discusses the introduction of consumer facing charges to incentivise reductions in consumption of certain SUPs. The following case study is also examined:

Table 4.5 – Ban and levy on carrier bags in South Africa.

EXTENDED PRODUCER RESPONSIBILITY (EPR)

Section 4.2.3 discusses the role of State and Local Governments in supporting the implementation of a Federal packaging EPR scheme to tackle some SUPs. In addition to the information covered for all policies, the following is included:

- A definition of EPR with respect to the NPPWM, including objectives and the role of State and Local Governments.

DEPOSIT REFUND SYSTEM (DRS)

Section 4.2.4 discusses the role of State and Local Governments in supporting a DRS for beverage containers to encourage correct disposal of SUPs and minimise littering. The following is also included:

- A definition of DRS to be used by State and Local Governments.

AWARENESS RAISING

Section 4.2.5 considers measures to raise awareness of issues related to SUPs, in particular discouraging littering and shifting consumer habits. The following case study is also examined:

Table 4.6 – Awareness raising in Antigua and Barbuda.

GREEN PUBLIC PROCUREMENT

Section 4.2.6 discusses the use of green public procurement to reduce reliance on SUPs. The following are also included:

Table 4.7 – Approach taken to tackle SUP at public events in Slovakia.

- Publicly available resources for supporting states to develop GPP policies.

COMBINATION AND SEQUENCING OF ACTIONS

Section 5.0 discusses the use of a systematic approach to implement multiple measures across multiple SUP items, and a high-level sequencing of actions where multiple measures are being considered over time for a single SUP item, or across several items. Consideration is needed for the type of product, the context of its use, and the suitability of non-plastic or multiple-use alternatives.

Examples of different decision trees and a case study are presented as guidance for how State and Local Governments should approach this:

Figure 5.1 - Shows a decision tree for assessing SUP policy pathways.
Figure 5.2 - Shows a decision tree developed by UNEP / WTTC.
Figure 5.3 - Is an extract from APCO decision tree.
Figure 5.4 - Shows the indicative scheduling of actions for carrier bags.
Table 5.1 - Examines a case study of a phase out of SUP and foam food containers in St Lucia.

DATA COLLECTION AND MONITORING

Section 6.0 provides guidelines for the data collection and monitoring requirements needed to understand the impact different measures are having, and to enable improvements over time. The types of data and tools that may be needed to facilitate data collection are laid out, as well as an example for reporting plastic carrier bags in the EU (Table 6.1).

UPCOMING DEVELOPMENTS

Section 7.0 draws attention to ongoing policy activities at the Federal level that may impact the guidelines presented here, noting that the guidelines are intended to be dynamic over time.

PART ONE

Collection, Diversion and Recycling Guidelines

Collection, Diversion and Recycling Guidelines

1.0 Introduction

The 'Collection, Diversion and Recycling Guidelines' focus on two focus areas of the National Policy on Plastic Waste Management (NPPWM), in which State and Local Governments have a role to play. Part One is structured as follows:

- Section 2.0 on improved collection of plastic waste and diversion from landfill and dumpsites.
- Section 3.0 on improved recycling of plastic waste.

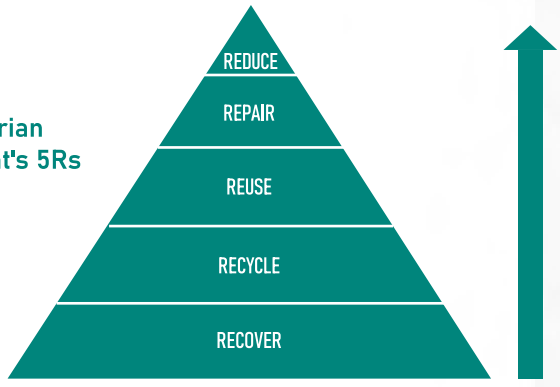
2.0 Focus Area 1: Improved Collection of Plastic Waste and Diversion from Dumpsites and Landfill

The following sections provide guidelines to support the Federal Government's goals and targets in the NPPWM for the improvement of plastic waste management. Through the monitoring of these changes, State and Local Governments should be able to demonstrate that environmental improvements have occurred. The NPPWM recognizes that current collection systems in Nigeria are inadequate to deal with the growing consumption of plastic annually. According to the NPPWM, Nigeria generates approximately '1.5 million tonnes of plastic waste' annually, of which less than 30% is 'collected for recycling'. An even smaller fraction of plastic waste is likely to be recycled (some estimate that the national recycling rate is less than 12%)[1] and both collected and non-collected plastic waste is mismanaged through littering, open dumping and open burning. In this context, through more sustainable waste management practices, the Federal goals and targets within the NPPWM aim to bring environmental improvements in Nigeria, through:

- Reducing the amount of waste, especially plastic waste, that is littered;
- Reducing greenhouse gas emissions from landfill, and from the production of new plastics which will be prevented through recycling; and
- Reducing the emissions of pollutants into the soil and groundwater from dumps and landfills.

The NPPWM adopts the 5R (reduce, repair, reuse, recycle and recovery) waste management hierarchy which 'sets an order of priorities' for waste management and builds the foundation for a circular economy in Nigeria. In line with the 5Rs, the NPPWM emphasizes that improving plastic waste collection and increasing diversion from landfill are important strategies to move material up the 5R hierarchy by increasing recycling rates. This will increase circularity in Nigeria and reduce the adverse environmental and health impacts associated with mismanagement of plastic waste.

Figure 2-1 The Nigerian Federal Government's 5Rs



Source: National Policy on Solid Waste Management

[1] Babayemi, J. O., Ogundiran, M. B., Weber, R. and Osibanjo, O. (2018) 'Initial Inventory of Plastics Imports in Nigeria as a Basis for More Sustainable Management Policies', Journal of Health and Pollution, 8(18), 180601. doi: https://doi.org/10.5696%2F22156-9614-8.18.1

The following sections provide guidance based on the Federal Government's policy goals and targets on plastic waste collection and diversion from dumpsites and landfill. The guidelines are addressed to State and Local Governments with responsibility for local waste management policies and for the design and operation of household waste management services, including the provision of waste collection services and litter management. These sections will cover:

- The scope of the guidelines on improving plastic waste collection and diversion from landfill according to the NPPWM;
- The key terms used in the guidelines to ensure consistent interpretation of the national policy;
- National policy targets and goals within the NPPWM;
- Key actions for State and Local Governments that address national policy targets and goals and implementation considerations for governments to be aware of (risks and timeline); and
- Considerations on the funding of improved collection services and resulting increased diversion from dumpsites and landfill.

Although there are significant overlaps between the NPPWM and the National Policy on Solid Waste Management (NPSWM), the focus of the guidelines is on meeting the targets and goals of the NPPWM, not the NPSWM.

2.1 Scope and Key Terms

Key terms used in these guidelines, and their definitions, are provided in -Table 22 below. Where possible, definitions were chosen from the following national policy and guidance documents to ensure alignment:

- NPSWM
- NPPWM
- The National Environmental (Plastic Waste Control) Regulations 2023
- EPR Guidelines

Where definitions were not identified in national policy and guidance, definitions from relevant international policy and guidance documents (such as EU Directives) were utilised where possible.

With respect to scope, within these guidelines, plastic waste is limited to Plastic generated as part of Municipal Solid Waste which is generated from residential and some commercial sources. Plastic waste that is generated from commercial sources is included in the scope of these guidelines so long as it meets the following criteria:

- The plastic waste in reference is similar to Household Plastic Waste; and
- The plastic waste in reference is managed, collected and treated with Household Plastic Waste.

Commercial plastic waste that is dissimilar to Household Plastic Waste is excluded from the scope of these guidelines. Plastic waste from industrial sources is also excluded from the scope. Waste management is typically organised in ways that aim to collect a range of different materials, rather than Plastic Waste only. The high-level key actions and considerations within these guidelines are therefore likely to also be applicable to other materials found within Municipal Solid Waste (i.e. waste generated from residential and some commercial sources as defined above, but excluding industrial sources).

Furthermore, within these guidelines, the term "Landfill" is limited to Sanitary Landfills; however, it is recognised that Nigeria currently lacks sufficient Sanitary Landfills for its waste disposal needs. Instead, Dumpsites (or Dumps) are typically used to dispose of waste. These sites lack (in part or entirely) the regulatory and/or environmental controls that Sanitary Landfills benefit from. Dumpsites can be Controlled or Uncontrolled.

- Uncontrolled Dumpsites are sites where waste is disposed of with few if environmental and health and safety controls and without regulatory oversight.
- Controlled Dumpsites are sites where waste is disposed of with some measures in place to protect the environment and health and safety. These may include:

    - limiting public access (e.g. through the use of fences and gates)
    - The application of basic waste separation practices to remove recyclable or hazardous materials to be managed separately
    - Reasonably frequent applications of cover material to limit the opportunity for waste to escape the site (e.g. due to the action of animals or wind).

These guidelines recognise that disposal in Controlled Dumpsites is preferable in terms of environmental sustainability and safe practice compared to disposal in Uncontrolled Dumpsites. However, Controlled Dumpsites still create environmental issues and their use is not consistent with international best practice. In line with the NPPWM, these guidelines therefore recognise Sanitary Landfills to be the most advanced, environmentally sustainable and safe option for disposal to land and preferable to even Controlled Dumpsites.

Table 2-1: Key Terms and Definitions used in these Guidelines and alignment with National Policy and Guidance Documents

Terminology	Definition	Definition used in the Guidelines	NPSWM	NPPWM	National Environmental (Plastic Waste Control) Regulations 2023	EPR Guidelines	Plastic Action Roadmap	International Policy/Guidance* (name in parentheses) *Where applicable
Collection	The process of picking up wastes from residences, businesses, or a collection point, loading them into a vehicle, and transporting them to a storage, transfer, processing, treatment, or a disposal site.	X	X					
	Logistical process of moving plastic waste from its source to a place where it can be recovered.				X			
Disposal	The final handling of solid waste, following collection, processing, treatment or incineration and often means placement of wastes in a dump or a landfill.	X	X					
Dumpsites / Dumps (Controlled and Uncontrolled)	Places where collected garbage has been deposited in a central location and where the waste is not controlled by daily, intermediate, or final covers, thus leaving the top layer free to escape into the natural environment through wind and surface water. For the purposes of these guidelines, Dumpsites or Dumps have no regulatory and environmental controls or fewer controls than those employed at Sanitary Landfills (see below). Dumpsites can be Controlled or Uncontrolled. Uncontrolled Dumpsites refer to sites with no environmental, health and safety controls and regulatory oversight. Controlled Dumpsites have some measures in place to protect the environment and health and safety (such as basic waste separation practices, the occasional covering of waste and limiting access to the public).	X					X	

Terminology	Definition	Definition used in the Guidelines	NPSWM	NPPWM	National Environmental (Plastic Waste Control) Regulations 2023	EPR Guidelines	Plastic Action Roadmap	International Policy/Guidance* (name in parentheses) *Where applicable
Extended Producer Responsibility (EPR)	An environmental protection strategy with the objective of decreasing total environmental impact from a product including its packaging, by making the producers of the product responsible for the entire lifecycle of the product, and the take back, recycling and final disposal of the product including its packaging.	X		X				
	Environmental policy approach in which a producer's responsibility for a product is extended to the waste stage of that product's life-cycle. It entails producers taking responsibility for the management of products after becoming waste, including: collection; pre-treatment, e.g. sorting, dismantling or de-pollution; (preparation for) reuse; (including recycling and energy) or final disposal.				X			
	Schemes that allow producers to contribute to the end-of-life costs of the products they put on the market.						X	
Household Waste and Household Plastic Waste	Solid waste comprising of garbage and rubbish (such as bottles, cans, clothing, compost, disposables, food packaging, food scraps, newspapers and magazines, and yard trimmings etc.) that originates from residential environments (private homes, apartments or high-density housing). **Within these guidelines, Household Plastic Waste refers to Household Waste (as defined above) made partly or wholly from Plastic material.**	X	X					

Terminology	Definition	Definition used in the Guidelines	NPSWM	NPPWM	National Environmental (Plastic Waste Control) Regulations 2023	EPR Guidelines	Plastic Action Roadmap	International Policy/Guidance* (name in parentheses) *Where applicable
Incineration	The process of combusting solid waste under controlled, approximately stoichiometric conditions to reduce its weight and volume, converting the waste into ash, flue gas and heat. In some cases, the heat generated by incineration can be used as an energy source.	X	X					
	Waste management process that involves the combustion of waste materials.			X				
	The disposal of WPP [waste plastic packaging] via a combustion process with or without energy recovery.					X		
	Destruction and transformation of material to energy by combustion						X	
Informal Worker	Any worker or economic unit carrying out activities along the plastic management value chain in law or in practice not covered or insufficiently covered by formal arrangements. **For the purposes of these guidelines, Informal Workers also include those carrying out activities along waste management value chains of materials other than plastic (which in practice include metals, waste electronics, textiles). Typical Informal Worker activities include the collection of waste from households and businesses, picking valuable materials from dumpsites, and low-technology processing of waste to facilitate recovery.**	X				X		

Terminology	Definition	Definition used in the Guidelines	NPSWM	NPPWM	National Environmental (Plastic Waste Control) Regulations 2023	EPR Guidelines	Plastic Action Roadmap	International Policy/Guidance* (name in parentheses) *Where applicable
Landfills	Waste disposal site for the deposit of waste onto or into land under controlled or regulated conditions. **Within these guidelines, the term Landfill is limited to Sanitary Landfill (see below).**	X			X			
	Used for waste management purposes such as the temporary storage, consolidation and transfer, or processing of waste material (sorting, treatment, or recycling).			X				
	Earthen facilities/sites where solid wastes are disposed by burial so as to fill in or reclaim low-lying ground/excavation pits.		X					
	A central place where collected waste is deposited and where waste is controlled by daily, intermediate, and final coverages, thus preventing the top layer from escaping into the natural environment due to the action of wind and rain.						X	
	The deposit of waste into or onto land. It includes specially engineered landfill sites and temporary storage of over one year on permanent sites.					X		
Leakage / Mismanaged Waste	Littered or uncollected plastic waste or collected waste that is deposited in a place from where it can reach the natural environment (intentionally or unintentionally). This includes dumpsites and landfills that are not properly managed, as well as open burning of waste.	X					X	

Terminology	Definition	Definition used in the Guidelines	NPSWM	NPPWM	National Environmental (Plastic Waste Control) Regulations 2023	EPR Guidelines	Plastic Action Roadmap	International Policy/Guidance* (name in parentheses) *Where applicable
Leakage / Mismanaged Waste	Within these guidelines, Leakage or Mismanaged Waste refers to any waste escaping the waste collection and management system into the terrestrial and marine environment. It can refer to waste, including Plastic Waste (known as Plastic Leakage): - directly littered into the environment; - openly burned; - that escapes from waste disposal and/or treatment sites, including Dumpsites and Sanitary Landfills; and - that escapes formally recognized collection systems (e.g., waste blown off a collection vehicle). In international definitions, material disposed of in a Dumpsite would be classed as Leakage. However, these guidelines need to recognise the infrastructure realistically available in Nigeria, and that some forms of Leakage are more damaging than others. It is therefore advised that: - Leakage in the form of disposal in an Uncontrolled Dumpsite is preferable to open burning or littering - Leakage in the form of disposal to a Controlled Dumpsites is preferable to disposal in an Uncontrolled Dumpsite, because Controlled Dumpsites have more measures in place for environmental protection. Disposal to a Sanitary Landfill is not a form of Leakage, due to the more advanced environmental protection measures such sites have in place.	X					X	

Terminology	Definition	Definition used in the Guidelines	NPSWM	NPPWM	National Environmental (Plastic Waste Control) Regulations 2023	EPR Guidelines	Plastic Action Roadmap	International Policy/Guidance* (name in parentheses) *Where applicable
Litter	Materials, often associated with smoking, eating and drinking, that are improperly discarded and left by members of the public; or are spilt during business operations as well as waste management operations. **For the purposes of these guidelines, materials split during waste management operations includes waste escaping Uncontrolled and Controlled Dumpsites, Sanitary Landfills and other informal or formally recognised waste management practices.**	X						**X (UK Code of Practice on Litter and Refuse)[2]**
Material Recovery Facility (MRF)	A MRF is a specialized plant that receives, separates and prepares recyclable materials for marketing to end-user manufacturers.	X	X					
Municipal Solid Waste (MSW)	According to the UN-Habitat definition, [3]are *'wastes generated by households, and wastes of a similar nature generated by commercial and industrial premises, by institutions such as schools, hospitals, care homes and prisons, and from public spaces such as streets, markets, slaughterhouses, public toilets, bus stops, parks, and gardens.'* Wastes from industrial processes and other hazardous wastes are excluded.	X	X					
	Solid waste including all residential and commercial waste but excludes industrial waste						X	
Open Burning	Waste that is burned without cleaning or control of emissions.	X					X	

[2]Department for Environment, Food and Rural Affairs (2019) *Code of Practice on Litter and Refuse.* Available at:

[3]UN-HABITAT (2010) *Solid Waste Management in the World's Cities: Water and Sanitation in the World's Cities 2010*. Available at: https://unhabitat.org/solid-waste-management-in-the-worlds-cities-water-and-sanitation-in-the-worlds-cities-2010-2

Terminology	Definition	Definition used in the Guidelines	NPSWM	NPPWM	National Environmental (Plastic Waste Control) Regulations 2023	EPR Guidelines	Plastic Action Roadmap	International Policy/Guidance* (name in parentheses) *Where applicable
Packaging and Packaging Waste	Any Plastic product and/or Plastic material intended to contain and protect objects, goods or articles, with a view to facilitating their handling, or transport.				X			
	Products made of any materials of any nature to be used for the containment, protection, handling, delivery and presentation of goods from raw materials to processed goods, from the producer to the user or the consumer. **For the purposes of these guidelines, Municipal Solid Waste which consists of Packaging (as defined above) is defined as Packaging Waste.**	X				X		X (EU Packaging and Packaging Waste Directive)[4]
Plastic	A material consisting of any wide range of synthetic or semi-synthetic organic compounds that are malleable and so can be moulded into solid objects.	X		X				
	A material which contains as an essential ingredient a high polymer and which, at some stage in its processing into finished products, can be shaped by flow.[5]				X			
Plastic Waste	Accumulation of plastic objects which are dumped or discarded without any scientific process after their intended use is over. It can be primary plastic such as bottle caps/bottles, single-use shopping/carry bags, pouches or multilayered packaging or secondary plastic.				X			

[4]PPWD – Directive 94/62/EC. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:01994L0062-20180704

[5]International Standards Organisation (ISO), 2013. ISO (472:2013 Plastics – vocabulary. Available from: https://www.iso.org/standard/44102.html

Terminology	Definition	Definition used in the Guidelines	NPSWM	NPPWM	National Environmental (Plastic Waste Control) Regulations 2023	EPR Guidelines	Plastic Action Roadmap	International Policy/Guidance* (name in parentheses) *Where applicable
Plastic Waste	For the purposes of these guidelines, Plastic Waste refers to Municipal Solid Waste which is wholly or partly made out of Plastic material.	X						
Private Sector Participation (PSP)	Avenues for investment/participation of the private sector in Solid Waste Management. Private sector includes a wide range of enterprise types, varying from informal micro-enterprises to large business establishments.	X	X					
Public-Private Participation (PSP)	An arrangement between a Government agency and a Private Organization in the execution of a particular initiative/project.	X	X					
Recycling	A process to change waste materials into new products to prevent waste of potentially useful materials.	X		X				
	A process which involves the separation of waste from a waste stream for further use and the processing of that separated material as a product or raw material.		X					
	Processing of plastics waste materials for the original purpose or for other purposes, excluding energy.				X			
	Any recovery operation by which waste materials are reprocessed into products, materials, or substances whether for the original or other purposes.					X		
Sanitary Landfills	Where non-hazardous waste is spread in layers, compacted and covered with earth at the end of each working day.	X	X					

Terminology	Definition	Definition used in the Guidelines	NPSWM	NPPWM	National Environmental (Plastic Waste Control) Regulations 2023	EPR Guidelines	Plastic Action Roadmap	International Policy/Guidance* (name in parentheses) *Where applicable
Solid Waste	Includes forms of household waste, commercial refuse, construction and demolition debris, garbage, electronic waste, refuse, sludge from waste treatment plant, and other discarded materials including solid and semisolid resulting from industrial, commercial, mining and agricultural operations and from community activities. Solid waste does not include solid or dissolved material in domestic sewage.	X		X				
Transfer Loading Station (TLS) (or Transfer Station)	A facility for the temporary deposition and consolidation of MSW from collection vehicles for further loading and transport by larger trucks or other means to final treatment/disposal facilities.	X	X					
	A facility that receives solid waste from collection vehicles and consolidates the solid waste in preparation for transport to a disposal facility.					X		
Waste Collection Vehicles (WCV)	Used for waste collection from primary sources to be taken to transfer loading stations (TLSs) or sites for final disposal.	X	X					
Waste Collection Vehicles (WCV)	A framework that sets priorities for the efficient use of waste resources with a view of reducing waste and waste liabilities, harness potentials and reduce negative impacts of waste. For the purpose of this policy the '5Rs' hierarchy will be adopted...namely: reduce, repair, re-use, recycle and recover.'	X	X					
Waste Segregation	The separation of waste generated into its different waste component/groups according to the specific treatment and	X	X					

2.2 National Policy Targets and Goals

National policy targets and goals are provided in the NPPWM relating to improvements in plastic waste collection. These collection objectives are in the context of an overarching goal to improve plastics circularity, including improving recycling at end of life (see Section3.0).

The following national targets and goals from the NPPWM informed the guidelines on improving collection of plastic waste and increasing diversion from landfill:

- 'Each State of the Federation and Local Government should adopt the waste hierarchy that sets an order of priorities for circular economy.'
- By 2025, 'each State and Local Government to improve the current collection system.'
- There will be a required 'introduction of multiple stream separate collection systems allowing separated collection of recyclables.'
- The 'creation of strategic plastic collection hubs and recycling centres across the federation' to receive plastic waste that might otherwise be littered or dumped, to form part of a systemic and integrated process.'
- Each State and Local Government should enforce the colour coding of waste bins or receptacles for sorting and sound management of waste as indicated below:
  a) Organic, compostable and biodegradable – Green
  b) Recyclable waste – Blue
  c) Infectious waste – Yellow
  d) Pathological – Yellow
  e) All sharps – Yellow with markings as sharps
  f) Chemical and Pharmaceutical, non-infections/non-hazardous – Brown
  g) Non-clinical – Black'

- 'Starting from 2020, all State governments, Local governments and Ward councils shall set waste management plans and targets every decade.'
- 'All states shall invest in waste collection infrastructure and services (including at ports).'
- 'Creation of requirements to collect and recycle all types of plastic products.'
- The FMEnv is 'to develop guidance documents on how to improve the sorting and collection of recyclable plastic by consumers.'
- Each State of the Federation and Local Government to 'raise awareness among consumers to discourage littering, increase waste sorting, improve waste disposal, promote beach clean-ups and better communications on purchasing habits to increase demand for sustainable substitute'

The following national policy targets and goals in the NPPWM relate to diversion from landfill:

- 'Each State and Local Government to improve the current collection and disposal systems (from the use of "open" dump sites—to controlled dumpsites and/ or sanitary landfill systems) by 2025.'
- 'From the year 2020, there will be national and state-wide targets for plastic waste collected, recycled and reused for various applications and volumes every five to ten years, towards meeting targets of:
  - Reducing landfill to a maximum of 10% of municipal waste by 2030'
- 'From 2021, there shall be economic instruments to discourage open dumping and even landfilling for recyclables.'
- State Environmental Protection Agencies have the institutional responsibility to 'institute tax regimes and ensure the payment of taxes for operations of all forms of landfills. The tax must be in such an amount as to discourage the establishment of landfills and to rather invest in waste-to-wealth schemes utilizing waste as a resource, and to reduce greenhouse (GHG) gas emissions into the environment from landfills.'

2.3 Actions and Implementation Considerations

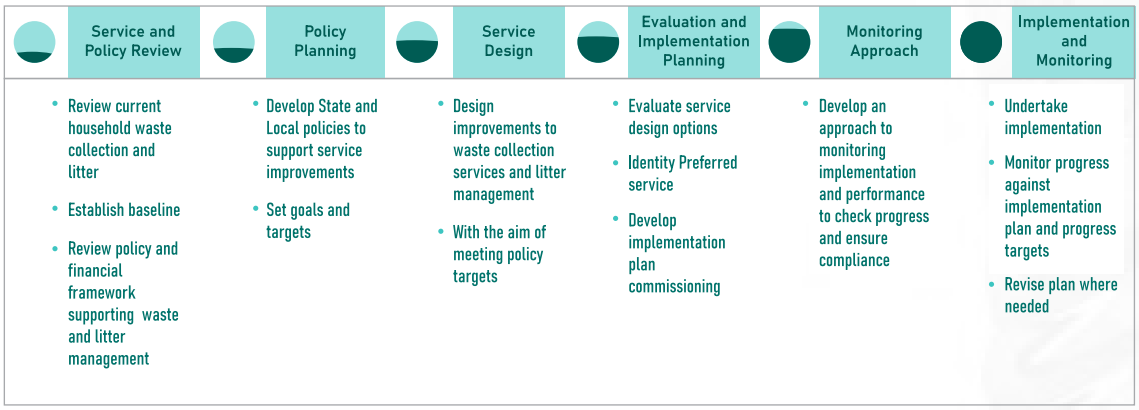
2.3.1 Improved Collection of Plastic Waste

States and Local Governments will need to improve plastic waste collection services and diversion of recyclable plastic waste from dumpsites and landfill to meet the above national targets and goals, and to subsequently improve recycling rates (see Section 3.2). This will involve State Governments introducing new plastic waste management plans, designing new collection services and/or redesigning existing ones as well as Local Governments implementing plans, monitoring implementation and collecting and reporting data.

The following section will provide guidance on key actions that States and Local Governments can take to improve collection and diversion from dumpsites and landfill, in accordance with the NPPWM. Implementation considerations are also provided and include the risks involved with each key action and the timeline for implementing actions. State and Local Governments should be aware of these considerations to ensure that actions are effective, feasible and do not hinder national targets and goals in the local context.

The following sections provide high-level guidance on how States and Local Governments with waste collection and litter management responsibilities could make waste management decisions best suited for their local context. The guidance for improved plastic waste collections are broken down into six important processes (see Figure 22): current service and policy review (Section2.3.1.1), policy planning (Section2.3.1.2), service (re)design (Section2.3.1.3), evaluation and implementation planning (Section 2.3.1.4), monitoring approach development (Section 2.3.1.5) and implementation and monitoring (Section2.3.1.6). Each process is broken down into key actions and considerations for States and Local Government and each process feeds into another (e.g., the service and policy review inform policy planning and service (re) design).

Figure 2-2: Processes covered by the Guidelines



Although improvements in collection services are in line with national policy targets and goals, the collection of increased quantities of waste without adequate treatment routes leads to an increased risk of inappropriate disposal and treatment of waste, such as through open dumping or burning. Therefore, the above key actions should be considered and aligned with the actions carried out under the goal of improving the recycling of plastic waste (outlined in Section3.0).

Indicative Timeline:

Some of the key decision-making actions can be executed in parallel as depicted Figure 23. The NPPWM requires State and Local Governments to set waste management plans and targets every decade, starting from 2020. The national policy also set targets for State and Local Governments to improve current collection and disposal systems by 2025 and to increase landfill diversion by 2030. These targets are in place to help meet the national and state-wide recycling targets by 2030 (see Section 3.2). Considering the feasibility of implementing the below key actions, Table 22 shows a draft timeline to ensure improvements in waste collection and diversion from landfill are implemented prior to 2030. However, this timeline is only indicative and will likely be subject to revision by State and Local Governments.

Figure 2-3 Draft Scheduling of Key Actions

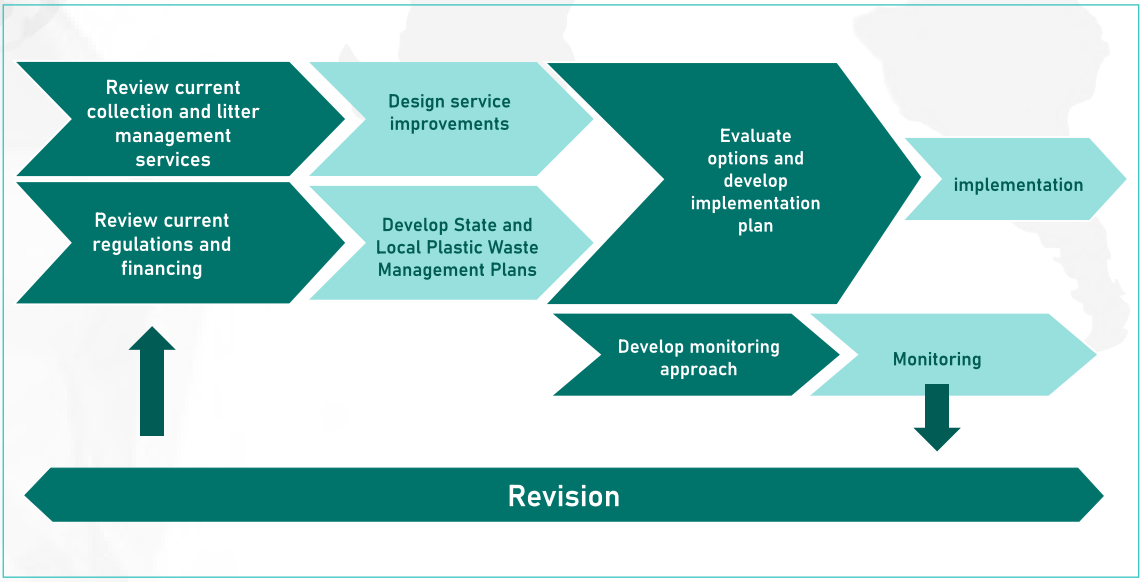


Table 2-2 Draft Timeline of Key Actions to Meet National Targets by 2030

Review current collection and litter management services	In 2024
Review current regulations and financing mechanisms	
Design service improvements	By 2025
Develop Plastic Waste Management Plans	
Evaluate options and design implementation plan	By 2026
Implementation	By 2027
Monitoring and revision	Commencing 2027 onwards
National Landfill Diversion and Recycling Targets	To be met by 2030

2.3.1.1 Current Service and Policy Review

To understand where improvements can be made to current collection systems, State and Local Governments are recommended to undertake a review of their current municipal solid waste collection and litter management services and establish a baseline. Data can be collected through surveys (e.g., behavioural surveys, surveying waste management stakeholders), collating existing data, conducting site visits (e.g., waste management facilities, towns),

communicating with associations (e.g., waste management associations, informal sector associations), as well as through meeting with and interviewing citizens, formal and informal sector workers and other waste collectors.

In undertaking the current collection service review, State and Local Governments could collect and aggregate data and information on the current municipal solid and plastic waste and litter management system. Data on current plastic waste and litter management may evaluate:

1. How municipal solid waste, packaging waste and plastic waste and litter is currently collected and managed. In evaluating this baseline, State and Local Governments could determine:

    a. Who is responsible for collection and in which areas (e.g., private companies versus public participation);

    b. The current coverage of collection services, particularly identifying where collection is largely absent and why that may be;

    c. The frequency of collection across areas, identifying where collection is largely infrequent and why that may be;

    d. The financial burden of collection services on households and where the cost of this service may not be affordable to households;

    e. The costs of litter management and collection services to the Government and/or to other involved parties (e.g., private firms, independent bodies), including where costs tend to be high;

    f. Sites and management behaviours that give rise to litter and plastic litter (i.e., where plastic leakage may be occurring in waste management);

    g. How and how often litter and plastic litter is cleaned up;

    h. Where collected waste is currently disposed of and the siting of these disposal sites; and

    i. The involvement of the informal sector in waste collection services.

2. The behaviour of householders in managing their (plastic) waste and litter. Assessing waste management behaviour can help identify why householders might engage in negative waste management behaviours (i.e., open dumping at uncontrolled dumpsites, open burning, littering). The following behavioural aspects could be assessed:

    a. How householders perceive waste, including whether they attribute any value to recoverable and recyclable plastic waste and what that value may be;

b. The willingness for householders to source-separate their recyclable plastic waste, including barriers to this behaviour;

c. Why householders may not engage in proper and safe disposal of municipal solid waste and plastic waste (e.g., through open dumping in uncontrolled dumpsites), including the barriers to engaging in positive waste management behaviours;

d. Why householders may engage in littering and the barriers to engaging in positive waste management behaviours;

e. Who oversees handling and managing waste within the household and how that might influence positive or negative waste management behaviour. For example, if women are largely in charge of disposing of household waste, and formal disposal sites are located in sites deemed unsafe, this may influence their decision to openly dump or burn waste; and

f. How cultural norms may exacerbate negative waste management behaviour.

3. The waste management and recycling performance of the current system which may require an assessment of:

a. The quantity of municipal solid waste, packaging waste and plastic waste generated within State or Local boundaries;

b. The proportion of municipal solid waste that is landfilled, dumped in controlled and/or uncontrolled dumpsites;

c. The recycling performance currently achieved for municipal solid waste, for packaging waste and for plastic waste;

d. The extent to which municipal solid waste escapes from collection services by becoming litter, including the extent of plastic leakage;

e. The extent to which municipal solid waste is managed by the informal sector rather than the formal sector.

Using the collated data, State and Local Governments could then identify where gaps and inefficiencies in current collection services lie and how these gaps hinder the overarching plastic waste management goals outlined in the NPPWM. For example, the analysis may identify the following gaps or inefficiencies in collection and litter management services:

- Collection services may not be available in certain areas such as regions with a low average household-income and informal settlements;

- Collection services are operational in a certain area but may be incomplete or unsatisfactory;
- Areas in which litter clean-up is absent, done infrequently or where litter is currently escaping the waste management system;
- Where formal disposal sites are too far for householders to dispose of their waste properly;
- The combination of factors that generate dangerous disposal practices or sites (e.g., the absence of collection services and location of formal disposal sites may lead to open dumping at uncontrolled dumpsites); and
- Where high costs overlap with identified inefficiencies in the waste management system (e.g., a high cost for collection schedules within a specific area but an associated low collection rate).

State and Local Governments may have difficulty gathering or gaining access to the most up-to-date and accurate data (e.g., the scale of participation of the informal sector). However, it is not necessary to have exceptionally accurate data to identify where gaps and inefficiencies exist in the current collection system and how to improve them. If necessary, estimates are sufficient to inform the baseline service assessment.

Simultaneous to the service review, State and Local Governments may need to consider reviewing the current policy and financial framework supporting waste and litter management, to identify where policy can aid in improvements to the current waste collection system. The review can make use of existing policy documents but could also consult stakeholders including policymakers, waste management workers and associations (both formal and informal), private companies, financial institutions and the public to assess the success and limitations of current policies and the available budgets and financing mechanisms. Consultations can be done through interviews, surveys and workshops. Data collected from the baseline service review can also inform the policy and financial framework review by providing quantitative evidence of where policies and the current financial framework have and have not been successful or efficient.

In evaluating the current policy and financial frameworks, State and Local Governments could:

1. Conduct a review of current State and Local policies and the extent to which these policies currently support the separate collection of municipal solid waste and, especially, plastic waste for recycling. The following policy components could be evaluated during the policy review:

a. The State and Local regulations defining litter and waste management responsibilities of public bodies, private sector operators and households, the mechanisms by which these responsibilities are currently enforced (e.g., fines) and instances in which mechanisms may hinder improvements in collection for recycling and in litter reduction.

b. State and Local policy goals and targets related to improved litter management, municipal solid waste collection and plastic waste collection and recycling, including whether progress has been made on these goals and targets.

c. State and Local regulations that may indirectly influence litter and municipal solid waste management, including policies related to women's safety and equality and the safety, security and employment of populations engaged in informal sector work.

2. Evaluate current budgets and financing mechanisms available to enable waste and plastic waste facilities and infrastructure to be developed (e.g., formal disposal sites, skips), capital investments to be made (e.g., in vehicles and waste receptacles) and the operational costs of delivering waste services to be met (e.g., labour costs, fuel costs).

   a. In evaluating the available budgets and financing mechanisms, States and Local Governments could assess the extent to which these currently support separate collection of waste, especially plastic waste, for recycling. In particular, the review could assess where current financing mechanisms are and are not sufficiently covering efficient and effective litter management and municipal solid waste (especially plastic waste) collection for recycling, and why.

For an evaluation matrix which provides some of the above considerations in table form municipal solid waste, packaging waste and litter, please see the Appendix (Table A 1).

2.3.1.2 Policy Planning

State and Local Governments will be required to develop a set of State and Local policies, plans, goals and targets for plastic waste collection and litter management to meet overarching NPPWM targets. As outlined in the NPPWM, for State Governments these plans will be in the form a State Plastic Waste Management Plan (PWMP). The State PWMP will advise Local Governments' three-yearly Plastic Waste Management Plans.

To develop effective plastic waste management policies, plans, goals and targets that also align with the NPPWM, State and Local Governments can use the policy and financial framework review (Section2.3.1.1) to potentially identify policy gaps, such as:

- Where current policy does not address national, state or local goals and targets for the improved collection of municipal solid waste, especially plastic waste, and management of (plastic) litter;

- Where current State and Local Government goals and targets related to (plastic) waste management are not being delivered and the reasons why that may be;
- Where regulations are (directly or indirectly) acting as a barrier to improving the collection of municipal solid waste, especially plastic waste, for recycling and the management of (plastic) litter; and
- Where budgets are constrained and/or how financing mechanisms are currently insufficient.

The above gap analysis would identify opportunities for policy development that address policy gaps, constraints in the current financial framework and misalignments with national goals and targets. In developing policy, States and Local Governments should consider involving a range of stakeholders, through multiple consultations. Consultations ensure that diverse perspectives are considered during policy writing and revision and that policies, plans and targets are deliverable. Relevant stakeholders include the public (particularly those responsible for managing waste within their households), the formal and informal waste management sector, financing institutions, public bodies and private sector operators.

2.3.1.3 Service Design

Based on the outcomes of the baseline service review and gap analysis, State and Local Governments can design improvements to waste collection services and litter management to meet the plastic waste management master plans, targets and policies developed from the policy planning stage (Section 2.3.1.2). Authorities should consider involving early consultation with a wide range of stakeholders in waste management including householders, women, formal and informal waste collectors and private operators.

In designing improvements to current litter management and collection services, States and Local Governments may need to use the results from the service gap analysis (Section2.3.1.1) to identify opportunities for service design improvements that can bridge those gaps. In identifying opportunities for service design improvements, State and Local Governments should consider that, since plastic waste is produced alongside other types of municipal solid waste, improvements in waste management may need to address a wide range of waste streams, not just plastic waste.

Designing improvements to the current service not only needs to address collection service and litter management gaps but must simultaneously meet national, state and local policy goals, plans and targets. In designing improvements, State and Local Governments could:

1. Involve multiple stakeholders early in the design process and seek their input in researching the success of service design elements across multiple contexts, in a process that involves conducting site visits, surveys, interviews, pilots and literature reviews.

a. There is a risk that certain vulnerable stakeholders, such as informal waste collectors, may be harder for State and Local Governments to engage with during the design process. State and Local Governments should consider the importance of building trust with stakeholders and establishing communication channels with formal bodies (e.g., associations, unions) that provide more security to these stakeholders.

2. Consider improving State and Local regulations to further support improvements in services (e.g., standards for collection services, requirements on householders to use collection services).

3. Consider different options for municipal solid and plastic waste collection services and litter management covering all communities they serve, including rural communities, inaccessible communities and informal settlements. Types of collection services may include, but are not limited to:

   a. door to door collections;

   b. the use of shared containers (e.g., bring banks, community skips); and

   c. the use of community facilities, where waste can be dropped off (see Figure 24 for examples).

Figure 2-4 Waste Collection in Kanifing Municipal Council, Gambia

Overview

Kanifing Municipal Council expanded waste collection services in 2019 by procuring 23 waste collection vehicles financed under a public-private partnership (PPP). Each of the municipality's 19 wards was assigned a waste compactor truck to collect waste daily via door-to-door collection rounds. Each ward has a workforce with one driver, three janitors, two ticket agents and one secretary. The janitors and ticket agents accompany the driver on collection rounds and the ticket agents are responsible for ensuring households buy a ticket before disposing of their household waste in the trucks. With this collection service, the city's Mbalit project (household waste collection project) covers about 55% to 60% of residential households.

Through partnerships, the Municipal Council still works with informal waste collectors who use donkey carts to collect household waste, especially from difficult to access areas for waste compactor trucks (e.g., informal settlements). The informal waste collectors and Municipal Council have an arrangement where they can dump collected waste inside the garbage trucks in certain parts of Kanifing for the same tariff as they

would normally pay by dumping the waste at the official dumpsite. This arrangement was made to incentivize proper waste disposal and reduce open dumping at uncontrolled sites.

The city also has ten skip bins across ten communal dumpsites, each of which is managed by one skip attendant. Residents can legally dump their waste in these skip bins, from where it is transported to the official dumpsite.[4]

4. Consider the frequency of municipal solid waste and plastic waste collection (e.g., weekly collections) across all communities that ensures the meeting of State and Local plans and targets as well as the health and safety of citizens and the environment. Frequency may need to be considered across all available collection services (e.g., door-to-door collection) and waste streams (e.g., recyclable plastic waste versus organic waste).

a. In considering frequency of collection, State and Local Governments need to consider that infrequent collections may generate environmental and health hazards to householders and increase negative waste management behaviours such as uncontrolled burning of waste as a means of managing excess plastic waste.

5. Consider the vehicles required for collection, including their cost, the area they cover, the accessibility of the area, the amount of waste they collect, and the frequency with which they collect waste. State and Local Governments may need to organise collection services differently across different areas of a city or town (see -Table 23 as an example).

6. Consider the waste receptacles to be used including factors such as:

   a. The type of waste receptacle to be used (e.g., bags, bins) and the areas in which they will be used, the space they require and their cost;

   b. Where the burden of cost should lie – whether householders can afford the cost of waste receptacles and whether this informs the type of receptacle to be used;

   c. The colour-coding of waste receptacles as defined by the NPPWM (see Section2.2); and

   d. The standardised signage for receptacles to make clear what should go in each to reduce contamination during source-separation of waste.

[4]Kumar, C., Bailey-Morley, A. with Kargbo, E. and Sanyang, L. (20202) *Waste Management in Africa: a review of cities experiences*. ODI Working Paper. London: ODI. Available at: http://www.odi.org/en/publications/waste-management-in-africa-a-review-of-cities-experiences
GIZ (2014) *Operator Models. Respecting Diversity: Concepts for Sustainable Waste Management*. Deutsche Gesellschaftfür Internationale Zusammenarbeit (GIZ) GmbH, Eschborn (Germany).

Table 2-3: Differences in Collection Services according to Maputo City Area (Mozambique)

City Area	Primary Collection*	Collection Point	Secondary Collection**
Inner city		1.1 – 2.5 cm^3 containers	Motorized communal collection ***
Residential inner city	Motorized door-to-door collection, one step****		
Suburban areas	Manual block collection*****	Large containers	Trucks
Rural areas	Self - service	Unmanaged drop off point	Motorized communal collection***

Source: GIZ (2014)[7]

* Primary collection refers to the collection of waste from households or businesses and involves small-scale service providers (e.g., informal sector workers).

** Secondary collection refers to the collection of waste from large communal containers (e.g., skips or communal bins), collection points or transfer stations, which is then taken directly to dumpsites. This usually involves large-scale service providers who use capital-intensive equipment (e.g., private sector).

*** Motorized communal collection refers to the collection from communal containers using motor-powered vehicles.

**** Collected household waste is picked up from the door and taken directly to dumpsites (in 'one-step').

***** Block collections refer to collections from neighbourhood collection points where waste generators (e.g., households) bring their waste to the collector.

7. Consider the role of gender in waste management, including potential consideration for:

    a. Where gender inequalities lie at household level regarding waste management and opportunities for empowering women and providing women's safety and security. Examples of inequalities and opportunities for empowerment include:

        1. If women are often engaged in the disposal of waste, siting disposal locations in safer locations (i.e., locations that are not isolated and very distant from households) can improve women's safety and security; and

        2. If women are disproportionately engaged in the unsafe open dumping (at uncontrolled dumpsites) and burning of waste, they are disproportionately exposed to hazardous waste, pollutants and other elements putting them at increased risk of health problems. Awareness raising and education, providing appropriate waste receptacles, safer siting of disposal locations, and providing frequent collection can all contribute toward safer waste management behaviours for women (and their children).

    b. Where gender inequalities lie within the formal and/or informal waste management sector and opportunities to empower women. Examples of these inequalities and opportunities for empowerment within the formal sector for example, include:

1. Providing paid maternity leave to potentially encourage more women to seek employment in the formal waste management sector; and

2. Addressing the gender pay gap and promoting more women into senior positions in the formal waste management sector to address any potential gender imbalance.

8. Consider the role and potential to leverage ongoing activities of informal sector workers, and their need for adequate labour and social protection, and how they might be integrated into, or best work alongside, the formal system.

   a. Integration strategies may include increasing direct employment and supporting (micro, small, medium) enterprise development and entrepreneurship and/or extending the scope of fiscal, labour and social security regulation (where possible, given current institutional powers) to include and/or sufficiently cover informal sector workers.

   b. Importantly, State and Local Governments should consider the risks of excluding informal sector workers that may not be legally recognised from any form of employment through the formalisation of the system.

   c. If the informal sector is not sustainably managed and adequately considered as a component of or integrated into the formal waste management system, then there is a risk of loss of livelihood to informal workers. Open and consistent communication with relevant associations (e.g., the waste picker association) could reduce this risk during the service design stage.

   d. Additionally, State and Local Governments should consider the social inclusion of informal sector workers through awareness raising.

9. Consider incentives to support and encourage positive waste management behaviours (e.g., proper and safe disposal of municipal solid waste, source-separation of plastic waste), potentially including:

   a. Providing incentives to householders for increasing the segregation of municipal solid waste and plastic waste at source, such as providing tax breaks and rebates or developing income-generating initiatives.

      1. Examples of existing incentives include:

         a. The Trash for Cash initiative, endorsed by the Lago State Government, which allows households to exchange plastic for rewards such as cash, foodstuffs, energy (e.g., cooking gas), access to healthcare and others.

b. Social enterprise, WeCyclers, provides a householder points system, which can be exchanged for rewards, for the source-separation and separate collection of waste (-Figure 25).

b. Providing incentives to informal waste collectors to reduce instances of improper waste disposal following household collection (e.g., open dumping at uncontrolled dumpsites, littering), such as through income-generating initiatives, reducing disposal fees and setting up waste disposal locations closer to collection sites (reducing the distance informal waste collectors need to travel).

10. Consider enforcement mechanisms (e.g., fines) to discourage negative waste management behaviour, with a consideration for:

    a. In what situations enforcement mechanisms are ineffective or have the opposite intended effect; and

    b. Where enforcement mechanisms may disproportionately affect a specific population (e.g., low-income communities.

11. Consider awareness raising (including at educational institutions) and community engagement to ensure uptake of positive waste management behaviour and the potential to:

    a. Educate the public on the importance of safe municipal solid waste disposal, source-segregation and recycling, through awareness raising and communication campaigns, the use of signage and rewards-based initiatives; and

    b. Raise awareness in the informal waste collection sector on the State and Local Governments' objectives and targets, the importance of meeting waste and plastic waste management goals and the benefits informal sector workers will be able to realise.

In designing service improvements, State and Local Governments will also need to consider the cost feasibility of service design. Therefore, part of the service design process might require an evaluation of the costs associated with each element of service design, with a consideration for:

- The budget constraints faced by State and Local Government;
- The feasibility of passing these costs onto households and whether households can afford this cost;
- The involvement of the private sector in waste management (e.g., through public-private partnerships and private-sector participation) and the extent to which these can further support the operation and costs of municipal solid waste and plastic waste management.

- New and available funding opportunities for litter management and municipal solid and plastic waste collection to meet funding gaps until the role of an EPR scheme for plastic packaging waste is fully understood, established and functional. Funding opportunities are discussed in Section2.3.3.

Additionally, State and Local Governments may need to consider:

1. The health, safety and environmental performance of each collection service option, including how to mitigate any adverse environmental impacts of service design options. In evaluating health, safety and environmental performance, State and Local Governments should consider any disproportionate effect these may have on the most vulnerable stakeholders involved.

2. The risks involved with each element of service design and how to mitigate them, including, but not limited to:

- If collection fleets exclusively consist of large vehicles, inaccessible neighbourhoods and informal settlements might be excluded from waste collection, especially in the absence of an informal sector.

- Should waste receptacle provision for source-separating waste be inadequate then there may be environmental and health hazards faced by households.

- If there is inadequate communication regarding how to use the containers, recyclable wastes may be contaminated with non-recyclable waste.

- Economic instruments to disincentivise landfilling and/or dumping of recyclables could generate the opposite intended effect, especially if appropriate collection and recycling infrastructure are not in place, and lead to increased plastic waste disposal in the environment.

- Employing a 'user-pays' system where households pay fees to waste collectors risks excluding informal settlements and other low-income households that may not be able to afford waste collection. Additionally, the system may conflict with producer responsibility (EPR) for the costs of managing plastic waste.

- If the informal sector is not sustainably managed and adequately integrated into the formal waste management system, then there is a risk of loss of livelihood to informal workers.

- There is a risk of formal waste management system failure (after informal sector formalisation) should there be a preference for the previous, informal system.

- If incentives for separate collection and diversion from landfill and dumpsites (controlled or uncontrolled) are not aligned with public awareness, values or needs, there is a risk that negative waste management behaviour worsens or that households do not take up source separating waste (see -Figure 25 for a successful case study).

Figure 2-5 Incentivising Source-Separation of Recyclable Waste in Lagos, Nigeria

Overview **Wecyclers, established in 2012, is a social enterprise founded to address Lagos' lack of waste collection (at the time 40% of Lagos' waste was collected). The company uses cargo bicycles to provide waste collection services for recyclable waste for households and businesses. The programme is free and awards points to households for each kilogram of recyclable waste collected (once the waste reaches sorting hubs). These points can be exchanged for food and household items, providing an incentive for low-income households to source-separate and recycle their waste. Motorized tricycles, vans and trucks are also now in use to increase coverage across Lagos.[8]**

2.3.1.4 Evaluation and Implementation Planning

Following options analysis for improved waste collection services and litter management, States and Local Governments will likely need to decide on a preferred service design option that is capable of meeting targets at the lowest practical cost. The cost could be considered alongside factors such as sustainable development goals and the ability of each option to reduce negative environmental and health impacts.

To identify a preferred service design and develop an implementation plan for the preferred option by 2026 (according to the draft timeline), State and Local Governments will likely have to undergo a process of options evaluation and implementation planning.

Options evaluation may entail the assessment of each of the service design options against a matrix of weighted evaluation criteria. The weighting assigned to each criterion is dependent on the importance of the criteria to the State and Local Governments' overall policy goals and plastic waste management plans and targets. Scores could be generated for each service design option depending on their performance against weighted criterion. This approach would enable State and Local Governments to make an objective choice and select a preferred service design. Weighted evaluation criteria could include:

[8]Wecyclers, 'About us'. Available at: https://www.wecyclers.com/about/

- The cost of the option;
- The health and safety performance of the option;
- The environmental performance of the option, including consideration for pollution control and reduced littering;
- The expected collection and recycling performance of the option and the extent to which this fulfils national, state and local plans and targets;
- The deliverability of the option considering the timeline of the national, state and local plans and targets;
- The flexibility of the option should there be a need for service (re)design in the near future;
- The expected acceptance of the service design option by the stakeholders involved and the risk of non-engagement; and
- The impacts of the service design option on sustainable development goals relating to equality (e.g., women's empowerment, providing safety and security to informal sector workers).

After identifying a preferred service design, State and Local Governments should consider developing an implementation plan for this preferred option. Designing an implementation plan, may include:

1. Designing procurement where necessary, such as enlisting the private sector in plastic waste management;
2. Supporting private sector operators to obtain proper permits to undertake waste collection so that they can engage in the provision of services legitimately and responsibly;
3. Deciding on commissioning (i.e., which type of organisation is best placed to deliver a particular service) through an options appraisal. Organisations that could potentially deliver waste collection include, but are not limited to, those within the public (e.g., direct delivery) and private sector (e.g., public-private partnerships).
    a. Different commissioning solutions might be appropriate for different services offered. Additionally, State and Local Governments may find there are better commissioning options than the examples listed above for their service.
    b. Where State and Local Governments are contracting a private sector operator, authorities should consider setting up the collection service in a way where one operator

covers one logistical area, to drive efficiency and ensure households are not excluded from the service.

c. The role of the informal sector should be considered when exploring commissioning options, especially in areas where the informal sector is working efficiently relative to formal waste management systems.

4. Where relevant, encouraging private-sector and third sector participation in waste management, including consideration for the potential participation of micro-, small- and medium-sized enterprises run by collectors formerly engaged in the informal sector.

5. Considering education and awareness raising programs (including at educational institutions) to ensure responsible waste management practices (including source-separation) are taken up by the public and informal sector workers.

Furthermore, State and Local Governments should also consider developing a timeline for implementation and establishing interim targets that represent expected implementation progress and expected progress toward long-term waste management goals and targets. This will enable State and Local Governments to measure and ensure implementation is on track and that service delivery is generating progress toward meeting the national, state and local plastic waste management targets. Additionally, consideration should be given to the importance of assigning responsibilities to those with the right skills to ensure successful execution of each stage of the implementation plan.

2.3.1.5 Developing a Monitoring Approach

Monitoring Implementation

To ensure effective and timely implementation of the preferred service design within budget, State and Local Governments should consider developing an approach for monitoring internal progress toward implementation. The approach would involve regularly monitoring budget, implementation timelines and progress against interim goals set within the implementation plan, resourcing and risks.

In developing an approach for monitoring implementation progress, State and Local Government should consider:

1. Assigning senior staff with the responsibility of monitoring implementation progress against interim goals set within the implementation plan.

2. Establishing actionable tasks, assigned to relevant staff members, within each phase of implementation (as outlined in the implementation plan). These tasks can be used to monitor progress towards completing each phase of implementation.

3. Establishing data requirements, including:

    a. what quantitative and qualitative data will be collected to monitor actual progress against expected progress, such as finances, resources and workloads, risk assessment and time to completion.

    b. how this data will be collected. For example, data may be collected by asking members of staff involved in each stage of service implementation to report progress through regular team meetings, reports/surveys and/or through a reporting tool/software.

    c. how data will be tracked (e.g., through a project management software) and what tools and resources (e.g., training) may be necessary to ensure accurate tracking.

4. Setting appropriate, regular intervals for monitoring including setting regular meetings with staff involved in implementation of the service.

5. Determining how progress will be communicated (e.g., through reports). Progress updates would likely include information on:

    a. Milestones achieved and upcoming milestones;

    b. Timelines (according to implementation phase), including any foreseeable delays;

    c. Overall budget and budget remaining to date; and

    d. Project risks, including risks around staff workloads and resourcing, and how these project risks will be managed.

Monitoring Service Performance

State and Local Governments will have to ensure that changes to the collection service deliver required results against interim targets set within the implementation plan and against national, state and local plastic waste management targets in the longer-term. States and Local Governments should therefore consider developing an approach to monitoring service performance.

The type of data that State and Local Governments may collect as part of their monitoring approach will depend on several factors including:

- Availability of data;
- Accessibility to relevant data monitoring tools;

- Engagement and discussions with industry stakeholders, including the informal sector and private companies involved in waste management; and
- Any standards set by the Federal Government for the collection and reporting of waste management data.

An example of a reporting template, showing the type of information that a State or Local Government might need to supply to enable progress against the targets to be monitored, is shown in -Table 2-4.

Table 2-4: Example Reporting Template for Municipal Waste

Period (01/04/2023-31/03/2024)	Value
Municipal waste received at landfills (tonnes)	
Municipal waste received at landfills but removed for reuse/recycling (e.g.,by informal sector) (tonnes)	
Municipal waste received at controlled dumpsites (tonnes)	
Municipal waste received at controlled dumpsites but removed for reuse/recycling (e.g., by informal sector) (tonnes)	
Municipal waste separately collected for reuse/recycling (tonnes)	
of which, plastic waste separately collected for reuse/recycling (tonnes)	
of which, other recyclable waste separately collected for reuse/recycling (e.g. paper/card, glass, metal packaging etc) (tonnes)	
of which, organic waste separately collected for reuse/recycling (tonnes)	
Municipal waste sent for recycling (if different from amount collected) (tonnes)	
Infectious waste separately collected (tonnes)	
Pathological waste separately collected (tonnes)	
Sharps waste separately collected (tonnes)	
Chemical and Pharmaceutical, non-infections/non-hazardous waste separately collected (tonnes)	
Municipal waste deposited in uncontrolled dumpsites (estimated tonnes)	

Period (01/04/2023-31/03/2024)	Value
Municipal waste burned domestically (i.e., open burning) (estimated tonnes)	
Plastic waste littered (estimated tonnes)	
In the box below, please provide details of any measures taken to raise awareness among consumers to discourage littering, increase waste sorting, improve waste disposal, promote beach clean-ups and encourage more sustainable purchasing habits	
[Answer re: awareness raising]	
In the box below, please provide details of any economic instruments used to discourage open dumping at uncontrolled and/or controlled dumpsites.	
[Answer re: economic instruments]	
[State authorities only] In the box below, please provide details of any taxes applied to landfills	
[Answer re: landfill tax]	

Note: Data in the grey shaded cells can be provided on a voluntary basis, as they may be difficult to gather and/or require challenging estimates.

To complete a data return like the one shown above, States and Local Governments will need to develop an approach to monitoring the amount of waste collected in different streams and approaches to estimating tonnages. This might involve:

1. Implementing infrastructure and developing tools and resources that allow for data monitoring, such as:

    a. Implementing weighbridges at formal waste management sites to measure the tonnages of waste received and the tonnages of waste leaving disposal sites with recyclables. These machines weigh waste collection vehicles and are set into the ground for vehicles to drive onto them. Where weighbridges cannot be implemented or are non-functional, State and Local Governments may consider purchasing or hiring waste collection vehicles with onboard weight monitoring systems.

        i. Weight of materials collected per vehicle type can also be estimated using the bulk density of the material collected (which may vary depending on whether the vehicle compacts the material) multiplied by the volume of the vehicle compartment. This method assumes that the vehicle compartment is full when it deposits waste at the waste management site. For mixed materials, the estimate may need to be informed by waste composition data of the waste stream being deposited (e.g. waste that contains a lot of food or glass will have a higher

density than material that is high in plastics or cartons). If many similar vehicles deposit similar wastes each day, the total weight can be extrapolated by multiplying the estimated weight of waste in one vehicle by the number of vehicles of that type depositing waste. A range of bulk densities for commonly collected material streams (with different estimates for different vehicle and container types) can be found in research undertaken by WRAP in the UK. [9]

b. Developing online platforms whereby informal sector workers, households and recyclers can be registered to allow for more accurate monitoring of plastic waste generation, collection and recycling (e.g., the Pakam app);

c. Leveraging the tools and resources of existing programs that incentivise source-separation of waste to measure municipal solid wase collected (e.g., Wecyclers and Trash for Cash);

d. Equipping informal sector workers with equipment to potentially aid in data monitoring of waste generation, collection and/or recycling. This will likely require funding and/or formalisation of the informal sector; and

e. Implementing cameras that take street snapshots over time, which can be used to count street litter on a transect (as a proxy for calculating plastic litter levels and reduction).

2. Working with the informal sector to gather information on waste that is diverted from formal waste management, including:

   a. Establishing open communication channels with the informal waste management sector (e.g., through associations); and

   b. Conducting surveys and gathering qualitative data to better inform current understanding of the informal sector value chain and the waste management practices adopted within the informal sector.

3. Developing methods for difficult-to-estimate data points (e.g., those highlighted grey in -Table 24), such as:

   a. Plastic litter levels or plastic leakage (see -Figure 26);

   b. Municipal solid waste tonnages dumped in uncontrolled dumpsites or openly burned (see -Figure 28); and

WRAP (2010) *Material bulk densities – Summary Report.* Available at: https://www.wrap.ngo/resources/report/material-bulk-densities

c. Municipal solid waste managed by the informal sector (e.g., tonnages separately collected from households for reuse/recycling, tonnages reused/recycled, tonnages removed from landfills and/or controlled dumpsites for reuse/recycling, etc.). State and Local Governments would benefit from collaborating with representatives of the informal waste sector while developing a method for estimating tonnages, to ensure that the proposed approach is as practical and accurate as possible.

d. If of interest, municipal solid waste generated at the source.

   i State and Local Governments may consider implementing signs on skips of a certain size, used to collect a certain material stream (e.g., mixed dry recycling), which indicates the tonnage of material when full. However, this assumes that the skip is only used to collect a certain material stream. Furthermore, not all households will deposit their waste in a skip.

4. Developing a requirement to report and publish data and results to ensure that progress targets are being met. Data monitoring and subsequent reporting should ideally be done regularly and consistently.

   a. The monitoring approach could include a feedback mechanism to update the implementation plan if implementation progress targets are not being met as expected.

   b. In developing a monitoring approach, State and Local Governments must consider any Federal Government standards for the reporting of waste management data to ensure future compliance.

A progress matrix is provided in the Appendix (Figure A 1) which provides a high-level overview of progression from more basic to more advanced waste management systems. State and Local Governments can utilise this matrix to consider where they currently stand with respect to their waste collection system, policies and data monitoring approach, and how they would like to progress in future.

Figure 2-6: Measuring Plastic Litter and Plastic Leakage

Litter Quantifying litter levels may involve measuring total weight of collected litter or the number of individual items littered. However, measuring litter solely by weight or by item can have its limitations, namely:

- Quantifying by weight may hide nuances related to litter size, which can provide important insight into littering patterns and overall street cleanliness, which influences public wellbeing (i.e., weighing a small number of large, heavy items versus many small, light-weight items).
- Quantifying by number of items would hide nuances related to how litter is affecting overall street cleanliness, again because it does not account for the size of items.

Furthermore, counting/weighing litter is highly resource intensive, especially over a large area such as a city or town. Therefore, to regularly assess litter levels, governments or organisations may do either or both of the following:

- Conduct litter counts or collect litter and weigh it, sometimes according to litter type (e.g., material, size, etc.) to gain an understanding of composition. This is typically done across a certain number of sample sites which are selected at random.[10]
- Undertake surveys at a random selection of sample sites to measure indicators for overall street cleanliness.

Sample sites can be designed to be representative of a range of geographies and/or characteristics which influence litter (e.g., deprivation levels), enabling the scaling and extrapolation of litter data across larger areas.

Should State and Local Governments wish to measure overall street cleanliness, there are multiple national and subnational survey methodologies that could be emulated. For example, in the UK, the following surveys are used to measure street cleanliness:

- **Local Environmental Audit and Management System (LEAMS):** Conducted by Keep Scotland Beautiful and Keep Wales Tidy annually, LEAMS provides an overall street cleanliness score based on the presence of litter and dog fouling. Each sample site is categorised

[10] Keep Wales Tidy (2024), Local Environmental Audit and Management System (LEAMS) Methodology, Available at: https://keepwalestidy.cymru/caru-cymru/wp-content/uploads/sites/3/2024/02/LEAMS-Methodology-2024.pdf

according to land use and intensity of use and the survey records the presence of different litter types and sources at each site. [11]

- **Local Environmental Quality Survey of England (LEQSE):** Conducted by Keep Britain Tidy, the LEQSE measures the presence of litter, alongside six other street cleanliness indicators (e.g., graffiti). Sites are then assigned a grade (between A and D). Alongside street cleanliness, the survey records land-use and measures the presence or absence of different litter types (e.g., material and use). [12]Keep Britain Tidy also undertakes litter composition analyses, combining LEQSE survey methods, litter counts and binned waste composition analyses. [13]

Furthermore, some institutions may also use data collected through citizen science (e.g., using a smartphone app) to inform litter levels and composition. State and Local Governments may wish to consider engaging with citizen science to gather additional data on litter levels and litter composition. For example:

- **Great British Cleans:** Organised by the Marine Conservation Society (MCS), the Great British Clean is a week-long event where hundreds of beach cleans across the UK are undertaken by volunteers. [14]During the beach clean, volunteers simultaneously conduct litter counts according to litter type by filling in a survey form.[15]

- **Love Clean Streets App:** Users can sign up to this app to report litter incidents, alongside other issues (e.g., fly-tipping, graffiti), and upload images of the incident.[16]

[11]Keep Scotland Beautiful (2023), Local Environmental Audit and Management System (LEAMS). Available at: https://www.keepscotlandbeautiful.org/local-environmental-audit-and-management-system-leams/
[12]Keep Britain Tidy (2020), Litter in England: The Local Environmental Quality Survey of England 2019/20. Available at: https://www.keepbritaintidy.org/local-authorities/understand-your-problem/environmental-surveys
[13]Keep Britain Tidy (2020), Litter Composition Analysis. Available at: https://www.keepbritaintidy.org/sites/default/files/resources/20200330%20KBT%20Litter%20Composition%20Report%20-%20FINAL.pdf
[14]Marine Conservation Society (2024), Great British Clean. Available at: https://www.mcsuk.org/what-you-can-do/join-a-beach-clean/great-british-beach-clean/
[15]Marine Conservation Society (2024), Beach clean litter survey form – updated. Available at: https://www.mcsuk.org/what-you-can-do/join-a-beach-clean/useful-guides-and-resources/guides-and-resources/
[16]Love Clean Streets (2024), How it works. Available at: https://lovecleanstreets.info/how-it-works

Leakage

Robustly estimating plastic leakage is challenging due to limitations in data availability and reliability. There is currently no widespread, standardised methodology for estimating leakage, which often relies on several quantitative and qualitative data points, including those related to the environment (e.g., hydrological data), plastic production, supply chain operations, consumption behaviours, waste generation and waste management practices. Several studies have generated global and national estimates of plastic leakage, such as by Jambeck et al. (2015),[17] Geyer et al. (2017)[18] and UN Environment Programme (UNEP) (2018),[19] however these estimates come with a large degree of uncertainty. There are limited studies estimating plastic leakage at a subnational scale (e.g., at state or local scales) due to the lack of high-resolution and high-quality data available to do so. [20] [21] At a very high-level, national studies tend model and estimate plastic leakage using information on the:

- Amount of plastic waste generated (e.g., per capita), collected (including by the informal sector if subsequently disposed of properly) and reused/recycled.
- Amount/rate of generated plastic waste that is mismanaged and the probability of leakage into the environment. Mismanaged waste refers to waste which is not properly managed and is thus likely to leak from the system, including waste in uncontrolled dumpsites, openly burned and mismanaged by the informal sector. For a visual representation of the plastic leakage pathway by UNEP, see -Figure 27 below.
- Amount/rate of generated plastic waste that is directly littered into the environment.

These points are difficult to measure, especially given that they are influenced by several environmental, socioeconomic, geographical and political factors. Should State Governments wish to estimate plastic leakage, there are detailed guidance documents, tools and modules online by UNEP that provide a methodology to identify plastic leakage hotspots at a subnational level (i.e., regional hotspots). The guidance also includes considerations for actions and instruments to address plastic leakage, which may be of relevance to State Governments.[22]

[17] Jambeck, J. R. et al. (2015), Plastic waste inputs from land into the ocean, Science, 347(6223, pp. 768-771. DOI: https://doi.org/10.1126/science.1260352. Accessed: 29 July 2024.
[18] Geyer, R., Kmabecj, J. R. and Law, K. L. (2017), Production, use, and fate of all plastics ever made, Science Advances, 3(7), e1700782, DOI: https://doi.org/10.1126/sciadv.1700782. Accessed: 29 July 2024.
[19] United Nations Environment Programme (2018), Mapping of Global Plastics Value Chain and Plastics Losses to the Environment: With a Particular Focus on Marine Environment. Available at: https://www.unep.org/resources/report/mapping-global-plastics-value-chain-and-plastics-losses-environment-particular
[20] Alencar, M. V. et al. (2022), How far are we from robust estimates of plastic litter leakage to the environment?, Journal of Environmental Management, 323, 116195. DOI: https://doi.org/10.1016/j.jenvman.2022.116195. Accessed: 29 July 2024.
[21] Alencar, M. V. et al. (2023), Advancing plastic pollution hotspotting at the subnational level: Brazil as a case study in the Global South, Marine Pollution Bulletin, 194 (Part B), 115382. DOI: https://doi.org/10.1016/j.marpolbul.2023.115382. Accessed: 29 July 2024.
[22] United Nations Environment Programme, IUCN and Life Cycle Initiative (2021), National Guidance for Plastic Pollution Hotspotting and Shaping Action. Available at: https://plastichotspotting.lifecycleinitiative.org/.

Figure 2-7: UNEP's definition of a Plastic Leakage Pathway

Source: UNEP, IUCN and Life Cycle Initiative (2021)[23]

Figure 2-8: Measuring Open Burning and Dumping of Plastic Waste

Open Burning and Dumping at Uncontrolled Dumpsites

Measuring the amount and composition of waste openly burned and dumped at uncontrolled dumpsites is difficult given that it is an unregulated activity. However, regularly measuring open burning and uncontrolled dumping can provide critical insight into the success and limitations of any service change implemented. Additionally, open burning and uncontrolled dumping present multiple environmental and health risks, further highlight the importance of monitoring the frequency and scale of these practices.

Methods for estimating open burning activities have been used in the literature, which could be emulated by State and Local Governments. Some methods identified in the literature include:

- **2019 IPCC Guidelines for National Greenhouse Gas Inventories Volume 5, Chapter 5:** This methodology is well-known for estimating greenhouse gas emissions from open burning. It presents equations

[23]United Nations Environment Programme, IUCN and Life Cycle Initiative (2021), National Guidance for Plastic Pollution Hotspotting and Shaping Action: Final Report for Tanzania. Available at: https://plastichotspotting.lifecycleinitiative.org/wp-content/uploads/2021/05/Tanzania_final_report_2021.pdf

Open Burning and Dumping at Uncontrolled Dumpsites

for estimating emissions, as well as for calculating the amount of open burning activities. However, this method relies on population, waste generation and waste management data (e.g., proportion of population burning waste) which may not be available to State and Local Governments and can lead to unreliable estimates. [24]

- **Distance Sampling**: Also called the transect walk survey, this method estimates open burning incidents, volume, composition and frequency by sampling along a transect. The amount of municipal solid waste burned can be estimated by multiplying the 'density' of incidents (i.e., incidents per km2) with the total area that the sample sites are designed to represent. [25]

- **Surveys**: Household and informal sector questionnaires may provide insight on open burning activities at a household/individual level. They are used to better understand the frequency of open burning, the number of people (e.g., per household) engaging in this activity and the motivations behind open burning.[26]

Similarly, estimating uncontrolled dumping activities will also likely rely on site visits, sampling and field observation. The distance sampling method identified above can also be applied to dumped waste. Similarly, waste in open dumps can be sampled to gain an understanding of composition.[27] State and Local Governments can also consider engaging with households and the informal sector through surveys to gain insight on open dumping behaviours, frequency and scale.

[24] Intergovernmental Panel on Climate Change (2019), Chapter 5: Incineration and Open Burning of Waste, in 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories, 5, pp. 5.1 – 5.19. Available at: https://www.ipcc-nggip.iges.or.jp/public/2019rf/pdf/5_Volume5/19R_V5_5_Ch05_IOB.pdf
[25] Ramadan, B. S. *et al.* (2022), A comprehensive review of domestic-open waste burning: recent trends, methodology comparison, and factors assessments, Journal of Material Cycles and Waste Management, 24, pp. 1633-1647. DOI: https://doi.org/10.1007/s10163-022-01430-9. Accessed: 31 July 2024.
[26] Ramadan, B. S. *et al.* (2022), A comprehensive review of domestic-open waste burning: recent trends, methodology comparison, and factors assessments, Journal of Material Cycles and Waste Management, 24, pp. 1633-1647. DOI: https://doi.org/10.1007/s10163-022-01430-9. Accessed: 31 July 2024.
[27] Nagpure, A. S. (2019), Assessment of quantity and composition of illegal dumped municipal solid waste (MSW) in Delhi, Resources Conservation and Recycling, 141, pp. 54-60. DOI: https://doi.org/10.1016/j.resconrec.2018.10.012. Accessed: 31 July 2024.

2.3.1.6 Implementation, Monitoring and Revision

Once an implementation plan and monitoring approach have been established, State and Local Governments can consider implementing the improved service design. For successful implementation, State and Local Governments should consider monitoring performance against the implementation plan's progress targets and against national, state and local plastic waste management targets by:

- Regularly monitoring data and evaluating progress toward interim goals, as established by the implementation plan and monitoring approach;
- Establishing requirements for implementation plan revision if expected progress is not met or too slow; and
- Ensuring that there are senior staff and elected representatives with responsibility for checking progress and who have the powers to make changes to the implementation plan if progress is slower than expected.

Where relevant, collecting and reporting of waste management data should meet Federal Government standards. To reach national waste management targets and goals, State and Local Governments should consider the importance of sharing standardised data with the Federal Government.

If expected progress toward implementation targets or national, state and local plastic waste management targets are not met, opportunities for revision may need to be identified. The assessment could consider the extent to which differences between waste management systems may be contributing toward success.

After identifying gaps and opportunities for revision, State and Local Governments can considerrevising implementation plans and PWMPs as needed.

2.3.2 Diversion from Dumpsites and Landfill

State and Local Governments should ensure that their waste management plans address the NPPWM goals of:

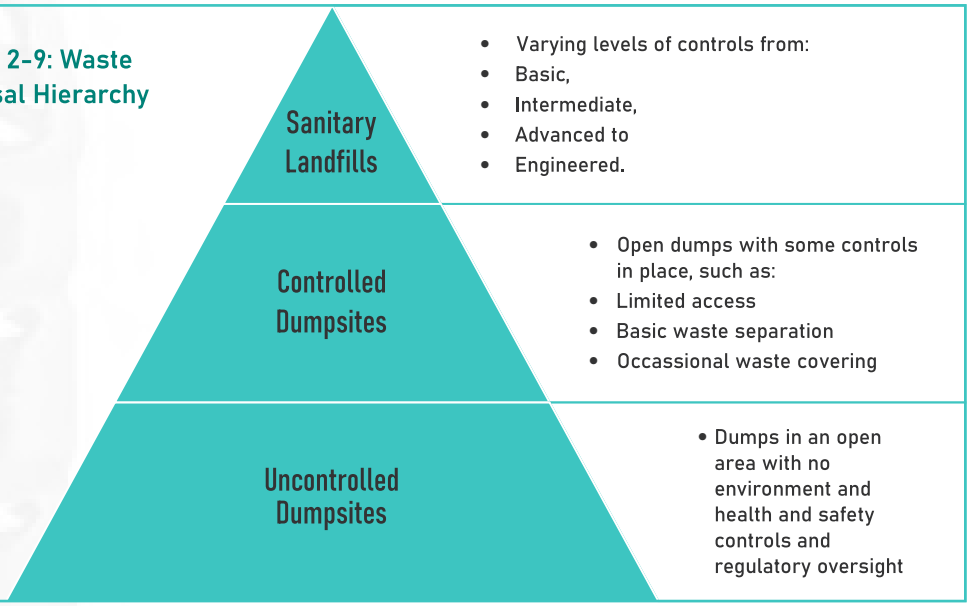
1. diverting waste from uncontrolled dumpsites to controlled dumpsites and sanitary landfill; and
2. diverting wate from disposal in dumpsite or landfill to re-use and recycling.

Current waste management systems in Nigeria typically do not dispose of waste in sanitary landfills, which are regarded as the most advanced, safe and sustainable form of waste disposal. In Nigeria, dumpsites are typically used to dispose of waste, which have fewer or no controls in place. Dumpsites can be controlled or uncontrolled dumpsites, the former of which has some basic measures in place to protect the environment and health and safety (whereas the latter has none).

Disposal in a controlled dumpsite is a more environmentally sustainable and safe practice than disposal in an uncontrolled dumpsite. Waste disposed of at uncontrolled dumpsites has a higher risk of escaping into the environment than controlled dumpsites. However, controlled dumpsites apply cover to waste somewhat erratically, and therefore waste is more likely to escape than from sanitary landfills. Furthermore, at both uncontrolled and controlled dumpsites, due to the absence of liner systems, the degradation of waste can result in pollutants leaching into the ground, potentially contaminating ground water. Recognising that there are incremental improvements to be made in disposal systems across Nigeria, -Figure 29 showcases a waste disposal hierarchy for State and Local Governments to consider when drafting their waste management plans. Where possible, States and Local Governments are encouraged to consider upgrading existing disposal systems to sanitary landfills to meet global standards of waste management.

A progress matrix is provided in the Appendix (Figure A 1) which provides a high-level overview of progression from more basic to more advanced waste management systems. State and Local Governments can utilise this matrix to consider where they currently stand with respect to their waste disposal system and how they would like to progress in future.

Figure 2-9: Waste Disposal Hierarchy



Increasing the proportion of material that is captured for recycling in line with the waste hierarchy will contribute to reducing waste disposal in dumpsites and landfill. However, specific steps may need to be taken to further increase diversion, especially from uncontrolled dumpsites.

As part of the baseline review process outlined in Section 2.3.1.1, States and Local Governments should identify:

- Where waste is currently disposed of, including the estimated proportion of waste managed through formal disposal routes (e.g., landfill and/or controlled dumpsites) and through informal routes (e.g., uncontrolled dumpsites);
- How formal (e.g., landfill and/or controlled dumpsites) and informal (e.g., uncontrolled dumpsites) disposal sites are currently managed, and the risks associated with each;
- Where it is intended that waste should be disposed of in future; and
- That the sites intended for future use as landfill meet the Federal Government's technical standards for a sanitary landfill.

It may be necessary, as part of this assessment, to ensure that there is sufficient capacity in the proposed future sites to receive the volume of waste that is expected, and that the plan provides adequate access to controlled dumpsites and/or sanitary landfill to meet the expected needs of the population in all parts of the local area. If there is insufficient capacity in controlled dumpsites and/or landfills that meet the required technical standards, or if the existing provision is not sufficiently accessible for the needs of some parts of the local area, additional capacity may need to be provided in alternative locations. This will require capital investment.

It has been a requirement of the Federal Government since 2021 to deploy economic instruments to discourage open dumping (at controlled and uncontrolled dumpsites) and landfilling of recyclables. Such instruments include:

- **Landfill tax or a mandatory minimum disposal charge:** These would deter the use of landfill and act as an incentive to instead recycle materials. This would be consistent with the institutional responsibility of State Environmental Protection Agencies, as set out in the NPPWM, to "Institute tax regimes and ensure the payment of taxes for operations of all forms of landfills. The tax must be in such an amount as to discourage the establishment of landfills and to rather invest in waste-to-wealth schemes utilising waste as a resource and to reduce GHG emissions into the environment from landfills"
    - For diversion to be effective, alternative means of managing the waste need to be in place. Incentives to divert waste from landfill can also be an incentive to dump waste informally, whether at uncontrolled dumpsites or in the wider environment.

This risk needs to be controlled through setting the cost of disposal at the right level, and through ensuring that there are deterrents to illegal dumping. States and Local Government retain the discretion to design taxes and fees to ensure they do not become a disincentive to effective and sustainable packaging waste management.

- **Banning the use of informal, uncontrolled dumps backed up with a system of enforcement mechanisms and penalties:** This is used to deter the use of uncontrolled dumpsites. To enable people to make more sustainable choices, skips could be installed at uncontrolled dumpsites (or at other, more convenient locations) so that waste can be deposited there and transported to a controlled dumpsite or sanitary landfill. Such skips could also be organised in such a way as to facilitate recycling.

The introduction of economic instruments may give rise to new income streams that can support the introduction of additional services to enable households to better manage their plastic waste. States and Local Government authorities should consider how such income feeds into the overall funding requirements for waste collection and management services.

Reducing the amount of waste that is deposited at (uncontrolled or controlled) dumpsites and/or landfills, will reduce the opportunities available to those in the informal sector engaged in waste picking, since:

- Some of the sites at which waste pickers now operate may stop receiving waste, and the waste pickers may not be able to access alternative sites; and
- A greater percentage of the material that has higher value to waste pickers, such as metals and plastics, will be diverted at source rather than being available to recover from dumpsites or landfill.

As part of the process of reducing the use of dumpsites and/or landfill, States and Local Government should engage with the informal sector and seek opportunities to make use of their skills and knowledge in any new system that may be put in place. This may include:

- Involving waste pickers in the management of skips sited at current uncontrolled dumpsites;
- Putting in place arrangements that enable waste pickers to be engaged in sorting of residual waste to recover recyclables, as part of the process of receiving waste on site at controlled dumpsites; and
- Providing employment opportunities within the sorting of recyclable materials that are separately collected, to help ensure the quality and purity of streams sent for processing.

2.3.3 Funding

The Federal Ministry of the Environment recognises that the changes in waste management that are required will have cost implications. It has indicated that packaging waste management activities shall be mainly financed through the annual budget of National, State and Local Governments, supported by an appropriate tax regime. However, it is intended that there should be access to a variety of equitable funding mechanisms and that States and Local Governments should be able to determine the best options for funding local packaging waste management activities that meet the required standards.

In this section we discuss the current and potential funding sources that may be available to support the capital and revenue expenditures required to implement changes. However, many of the mechanisms available are likely to be best suited to meeting annual costs, and it may be necessary to fund some investments through borrowing, grants or attracting private finance, with any repayments met through annual income.

2.3.3.1 Federal Funding Programmes

To assist in implementing new waste management services, States and Local Governments can obtain support through existing Federal funding programmes, such as:

- National Plastic Waste Recycling Programme;
- Waste to Wealth Entrepreneurship Programme;
- Community-based Solid Waste Management Programme.

These funding streams have specific areas of focus and may only be suited to funding narrow aspects of the overall transformation that States and Local Government authorities are required to make. They will likely need supplementing by other sources of funding.

2.3.3.2 Extended Producer Responsibility

Funding for waste management in respect of plastic and other packaging waste will be provided through a system of extended producer responsibility (EPR). EPR will place responsibility on packaging producers to fund the collection and management of the waste they place on the Nigerian market, to a standard that enables recycling targets to be met. Packaging producers will therefore be key stakeholders in the implementation of future waste management systems.

The value of EPR funding, the precise services whose costs it will cover, how it will be paid and any performance standards that need to be met to qualify for it are yet to be determined. It should, however, support both capital and revenue costs, including the costs of communicating with and

educating the public. The funding available through this route will apply only to the management of packaging waste, and therefore the resources to fund other elements of the waste management system will need to be found from elsewhere. States and Local Government should ensure that recycling services that are funded through EPR are made free of charge to end users.

2.3.3.3 User Charging

Whilst, in the future, the costs of collection, recycling and disposal of packaging may be met by producers (Section 2.3.3.2), in the interim, some or all the system cost will need to be met by the householder. A well-designed charging system can incentivise householders to:

- Reduce the amount of chargeable waste that they generate, to avoid costs; and
- Favour the use of low or zero cost routes for waste management, such as recycling.

However, a badly designed scheme that does not have appropriate safeguards and enforcement in place can lead to an incentive for householders to dispose of waste though illegal dumping (i.e., at uncontrolled dumpsites) or uncontrolled burning to avoid the charges.

Charging can be on a "per collection" basis, or on a "subscription" basis. A subscription is more difficult for householders to avoid and means that there is less incentive to dispose of waste illegally (since disposal has already been paid for); but it also means there is less incentive to reduce and recycle waste.

Charges for residual waste management should be higher than for recyclable materials, but enforcement will then be needed to ensure that householders do not seek to avoid costs by putting non-recyclable materials in their recycling containers.

2.3.3.4 Landfill Tax/Charges

A landfill tax or minimum landfill charges have the potential to raise income to cover the costs of running the landfill, its after-care once it is full, and even a surplus that may be spent on other waste management services.

The tax or charge places an incentive on those delivering waste to the landfill to reduce the amount of waste that requires disposal, and to pass on this incentive to their customers by either reflecting it their charges to customers or by otherwise encouraging them to reduce waste.

As with direct user charging, enforcement is required to ensure that the response to the incentive is not to dump waste illegally. Collectors found to be illegally dumping waste (i.e., at uncontrolled dumpsites) should be at risk of losing their permit to collect waste.

2.3.3.5 Fines

Part of the enforcement system for proper waste management is likely to be the enforcement of fines on people who dispose of waste in inappropriate ways – whether littering, fly-tipping, or poor segregation of recyclables that leads to contamination of containers. The fines levied to discourage this behaviour may be a source of income. However, it is undesirable to rely on fines as a regular source of income, as their purpose is to deter poor waste management behaviour; if fines work as intended, they should be a declining source of income as they achieve their desired effect of bringing about compliance with waste legislation.

2.3.3.6 Other sources of income

In addition to the major income streams discussed above, States and Local Governments may wish to explore the potential to source funding for projects from other sources. Avenues to explore include:

- Donor funding
- Development partners/philanthropic organisations
- Ecological funds

These sources of funding will tend to require time to be invested in making applications and are unlikely to be suitable for funding day-to-day services. However, they may be appropriate to support pilot projects or projects that have particular social value, over and above their contribution to plastic waste management.

3.0 Focus Area 2: Improved Recycling of Plastic Waste

Nigeria ranked ninth out of 192 countries in 2010 for the amount of mismanaged plastic waste entering marine environments, accounting for approximately 3% of global mismanaged plastic waste.[28] The NPPWM recognizes that plastic waste is mismanaged in Nigeria, through littering, dumping (especially at uncontrolled dumpsites) and open burning, presenting several environmental and health problems including:

- Release of pollutants, toxins, particulate matter during open burning and their deposition in soil and water (leading to ingestion by organisms and citizens); [29]
- Aquatic and terrestrial plastic pollution and associated microplastic pollution and health impacts;
- Greenhouse gas emissions due to landfilling, dumping (at controlled or uncontrolled dumpsites) and open burning and associated climate impacts;
- Physical injury from waste deposited in uncontrolled or controlled dumpsites;
- The development of respiratory and neurological diseases from exposure to open burning;[30] and
- Flood risk[31] and the spread of water-borne diseases[32] due to dumping in waterways.

According to Nigerian Federal Government's waste hierarchy (the 5Rs, see -Figure 21), recycling is the preferred treatment method for plastic waste following repair and reuse. By increasing national recycling rates, the Federal Government aims to establish a more circular economy in Nigeria and reduce the adverse environmental and health impacts associated with the mismanagement of plastic waste.

The NPPWM recognizes that to achieve national policy targets on increasing plastic recycling, collection services and landfill/dumpsite diversion rates must simultaneously improve. Guidelines that address these national waste collection and landfill diversion targets and goals are expanded upon in Section 2.0. In the following section, guidelines are provided to help States

[28] Jambeck, J. R. *et al.* (2015) 'Plastic waste inputs from land into the ocean', *Science*, 347(6223), pp. 768-771. doi: https://doi.org/10.1126/science.1260352
[29] Velis, C. A. and Cook, E. (2021) 'Mismanagement of Plastic Waste through Open Burning with Emphasis on the Global South: A Systematic Review of Risks to Occupational and Public Health' , *Environmental Science and Technology*, 55(11), pp. 7186-7207. doi:https://pubs.acs.org/doi/full/10.1021/acs.est.0c08536
[30] Van Niekerk, S. and Weghmann, V. (2019) *Municipal Solid Waste Management Services in Africa,* PSI. Available at: http://www.world-psi.org/sites/default/files/documents/research/waste_management_in_africa_2018_final_dc_without_highlights_2019.pdf
[31] UNEP (2018) *Africa Waste Management Outlook*. United Nations Environment Programme, Nairobi Kenya. Available at: https://www.unep.org/ietc/resources/publication/africa-waste-management-outlook
[32] Van Niekerk, S. and Weghmann, V. (2019) *Municipal Solid Waste Management Services in Africa,* PSI. Available at: http://www.world-psi.org/sites/default/files/documents/research/waste_management_in_africa_2018_final_dc_without_highlights_2019.pdf

and Local Governments with waste management and treatment responsibilities to achieve the Federal Government's plastic recycling targets and goals set out in the NPPWM. This section will cover:

- The scope of the guidance on improving plastic recycling and key terms used to ensure a consistent interpretation of the national policy;
- National policy targets and goals within the NPPWM that relate to improving plastic waste recycling;
- Key actions for State and Local Governments that address national policy targets and goals and implementation considerations outlining risk and timeline issues; and
- Funding considerations for improving recycling systems for plastic waste.

As addressed in Section 2.0, there are overlaps between the NPPWM and the NPSWM. The focus of the following guidelines is on meeting the plastic recycling targets and goals of the NPPWM.

3.1 Scope and Key Terms

Key terms used in these guidelines, and their definitions, are provided in -Table 22 in Section 2.1. Where possible, definitions were chosen from the following national policy and guidance documents to ensure alignment:

- NPSWM
- NPPWM
- The National Environmental (Plastic Waste Control) Regulations 2023
- EPR Guidelines

Where definitions were not identified in national policy and guidance, definitions from relevant international policy and guidance documents (such as EU Directives) were utilised where possible.

With respect to scope, within these guidelines, plastic waste is limited to Plastic generated as part of Municipal Solid Waste which is generated from residential and some commercial sources. Plastic waste that is generated from commercial sources is included in the scope of these guidelines so long as it meets the following criteria:

- The plastic waste in reference is similar to Household Plastic Waste; and
- The plastic waste in reference is managed, collected and treated with Household Plastic Waste.

Commercial plastic waste that is dissimilar to Household Plastic Waste is excluded from the scope of these guidelines. Plastic waste from industrial sources is also excluded from the scope.

Within these guidelines, the term Landfill is limited to Sanitary Landfills, however, it is recognised that current waste management systems in Nigeria typically do not dispose of waste in Sanitary Landfills. In Nigeria, Dumpsites (or Dumps) are typically used to dispose of waste, which refer to sites where waste material is deposited with no regulatory and environmental controls, or fewer controls than Sanitary Landfills. In Nigeria, Dumpsites can be Controlled or Uncontrolled. Uncontrolled Dumpsites refer to sites with no environmental and health and safety controls and regulatory oversight. Conversely, Controlled Dumpsites have some measures in place to protect the environment and health and safety (such as basic waste separation practices, the occasional covering of waste and limiting access to the public). These guidelines recognise that disposal in Controlled Dumpsites is a more environmentally sustainable and safe practice compared to disposal in Uncontrolled Dumpsites. However, as recognised in the NPPWM, these guidelines recognise Sanitary Landfills are the most advanced, environmentally sustainable and safe disposal options and encourage upgrades in disposal systems to meet global standards of waste management.

There is no single, best way to measure how well a recycling system is performing. However, States and Local Government authorities should have regard to the way in which the Federal Ministry of the Environment measures recycling and ensure that, as far as possible, local measurement of recycling is consistent with this. It is important that any measurement of recycling performance should be practicable and not unduly complicated. However, calculating a recycling rate may not be so straightforward as simply weighing the amount of waste collected for recycling and dividing this by the overall tonnage of waste collected. Important considerations include:

- **Contamination:** if material that is collected for recycling also contains significant amounts of non-recyclable material, it is important to make an allowance for this in the calculation of the recycling rate.
- **Sorting losses:** when mixed packaging waste, for example, is sorted for recycling, some potentially recyclable material may be discarded, and some may be placed in the wrong recycling stream and subsequently disposed of. An assessment should be made of sorting accuracy and sorting losses, with this being accounted for in the calculation of the recycling rate.

- **Reprocessing losses:** when materials are recycled, some of the material will be lost during the recycling process. This may occur when, for example, labels are removed from metal cans or plastics; or during paper or cardboard recycling when very short fibres are screened out as unsuitable for inclusion in the final product. Such losses should be considered, especially when considering the overall circularity of a particular material.

3.2 National Policy Targets and Goals

The overall aim of the NPPWM is to improve the circularity of plastics and recycling; where repair and reuse cannot be applied, recycling is the preferred treatment option in a circular economy. As the sections above have described, the NPPWM has national policy targets and goals on improving the collection of plastic waste and the diversion of plastic waste from landfill and dumpsites, which are inherently linked to increasing the recycling rate of plastics. To address the improved recycling of plastic waste, the following national policy targets and goals should also be considered in conjunction with those identified in Section2.0:

- Each State of the Federation and Local Government should adopt the waste hierarchy that sets an order of priorities for circular economy.[1]
- To transform all plastic products, packaging materials and its waste to a resource[1]
- The Federal Government shall promote stronger environmental standards in plastic sorting and recycling.[1]
- Each State and Local Government is to develop and introduce a policy directive and appropriate regulatory framework for setting of targets for each city and town in their jurisdiction to recycle an appropriate percentage of their household and commercial waste generated and a significant percentage of construction and demolition waste to meet sustainable development goals.[1]
- Starting from 2020, all State governments, Local governments and Ward councils shall set waste management plans and targets every decade.[1]
- Starting from 2020, there shall be introduction of recycling rate targets for each sector, council, city and state.[1]
- From the year 2020, there will be national and state-wide targets for plastic waste collected, recycled and reused for various applications and volumes every five to ten years, towards meeting targets of:

- Recycling 65% of municipal waste by 2030;
- Recycling 75% of packaging waste by 2030; and
- 50% of all plastic waste to be recycled by 2030.[1]

- Creation of requirements to collect and recycle all types of plastic products.[1]
- All States shall ensure waste management infrastructure and wastewater treatment facilities[1] to avoid 'dispersion of litter into the marine environment – particularly in coastal areas or near rivers.'[1]

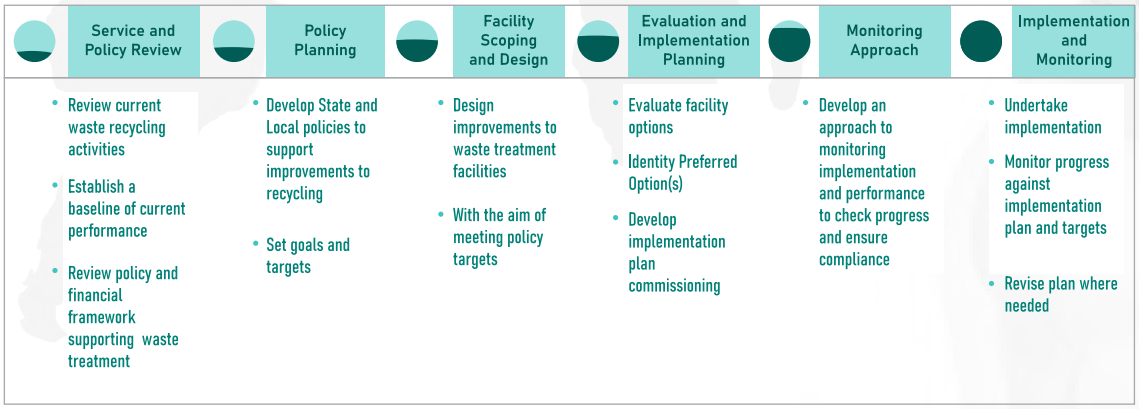
3.3 Actions and Implementation Considerations

3.3.1 Improved Recycling of Plastic Waste

To support improvements in collection services so that the recycling targets can be met, States and Local Governments may need to consider improving waste recycling and treatment infrastructure. This will involve introducing new facilities and redesigning existing ones. Although improvements to recycling infrastructure should increase national and state-wide recycling rates, the achievement of the high recycling targets will also be dependent on the recyclability of plastic packaging, which is determined during the design phase of the product. The NPPWM recognizes this and sets the goal to ensure that 'all plastic packaging in the market meet at least two criteria of being recyclable or biodegradable or compostable or reusable by 2030.'[1] The delivery of this goal will enable a higher recycling rate for plastic packaging but will rely on the passing of national regulation for the design of plastic packaging, which is out of scope for these guidelines.

The following sections provide high-level guidance on how States and Local Governments with waste management responsibilities could make waste management decisions best suited for their local context. Similarly to the guidance provided for improved collections (Section 2.3.1), the guidance for improved recycling of plastic waste are broken down into six important processes (see Figure 22): current recycling performance policy review (Section 3.3.1.1), policy planning (Section 3.3.1.2), facility scoping and design (Section 3.3.1.3), evaluation and implementation planning (Section 3.3.1.4), monitoring approach development (Section 3.3.1.5) and implementation and monitoring (Section 3.3.1.6). Each process is broken down into key actions and considerations for States and Local Government and each process feeds into another (e.g., the service and policy review inform policy planning and facility scoping and design).

Figure 3-1: Processes covered by the Guidelines



Indicative timeline:

The implementation of these key actions should be considered alongside the implementation of the key actions identified in Section 2.3, given that improvements in collection services are inherently linked to improvements in recycling rates. The NPPWM requires State and Local Governments to set waste management plans every decade and to introduce recycling rate targets starting from 2020. By 2030, national and state-wide targets for recycling must be met, namely: a recycling rate of 65%, 75% and 50% for municipal waste, packaging waste and all plastic waste by 2030 respectively. Considering this national target, and the feasibility of implementing the above key actions, a draft scheduling and timeline are provided in Figure 32 and Table 31. However, this timeline is only indicative and will likely be subject to revision by State and Local Governments.

Figure 3-2 Draft Scheduling of Key Actions

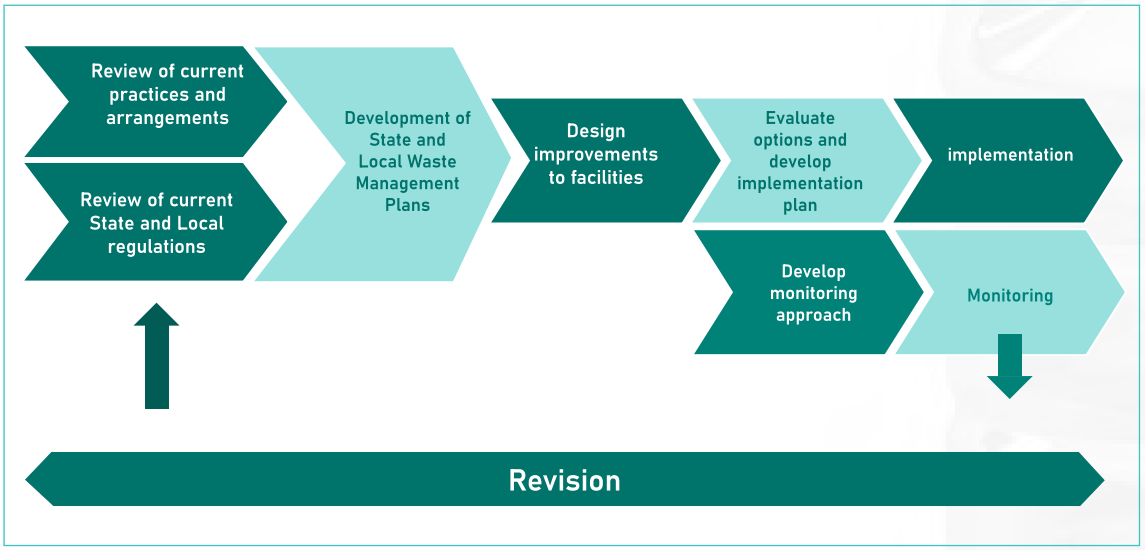


Table 3-1 Draft Timeline of Key Actions to Meet National Targets by 2030

Review current recycling and waste treatment practices (including informal sector and role of women) and arrangements	In 2025
Review current regulations and financing mechanisms	
Develop Plastic Waste Management Plans	By 2026
Design improvements to waste infrastructure	
Evaluate options and develop an implementation plan	By 2026
Implementation	By 2027
Monitoring and revision	Commencing 2027 onwards
National Landfill Diversion and Recycling Targets	To be met by 2030

3.3.1.1 Current Recycling Performance and Policy Review

To understand where improvements can be made to current recycling performance, State and Local Governments may need to undertake a review of their municipal solid waste recycling performance and establish a baseline. Data can be collected through surveys (e.g., surveying waste management stakeholders), collating existing data, conducting site visits (e.g., waste treatment facilities), communicating with associations (e.g., informal sector associations), as well as through meeting with and interviewing citizens, formal and informal sector workers and other waste recyclers.

In undertaking the current recycling performance review, State and Local Governments may have to collect and aggregate data and information on current (plastic) waste treatment and recycling. Data on treatment and recycling performance could evaluate:

1. How municipal solid waste, packaging waste and plastic waste and litter is currently treated. In evaluating this baseline, State and Local Governments could determine

    a. Who is responsible for municipal solid waste, packaging waste and plastic waste treatment;

    b. The capital and operational costs of waste treatment and recycling to the Government

and/or to involved parties (e.g., private firms, independent bodies), including where costs tend to be high;

c. Operational and non-operational waste facilities, current management and challenges;

d. The siting of waste facilities and the current input (tonnages) of municipal solid waste, packaging waste and plastic waste to these facilities;

e. The involvement of the informal sector in waste treatment and recycling; and

f. The involvement of women in the formal and informal waste management sector with regard to recycling, including an evaluation of the risks women are exposed to within the sector.

2. The recycling performance of the current system which may require an assessment of:

a. The quantity of municipal solid waste, packaging waste and plastic waste generated within State or Local boundaries;

b. The proportion of municipal solid waste that is landfilled, dumped in controlled dumpsites and/or uncontrolled dumpsites;

c. The recycling performance currently achieved for municipal solid waste, for packaging waste and for plastic waste;

d. The extent to which municipal solid waste escapes from collection services by becoming litter;

e. The extent to which municipal solid waste is managed and recycled by the informal sector rather than the formal sector; and

f. How current waste treatment (identified above) contributes to the recycling performance currently achieved.

Using the above collated data, State and Local Governments can then identify where gaps, inefficiencies and health and safety concerns lie in current recycling performance and how these gaps hinder overarching plastic waste management goals outlined in the NPPWM. For example:

- Material recovery facilities may be sited in isolated locations that limit the input of recyclable waste materials, especially plastic waste;
- Informal sector workers may be picking valuable, recyclable plastic waste from controlled and uncontrolled dumpsites, landfills and other disposal locations;

- Poor health, safety and environmental performance of some existing (plastic) waste treatment and recycling facilities or practices; and
- Where high costs overlap with identified inefficiencies in the system.

State and Local Governments may have difficulty gathering or gaining access to the most up-to-date and accurate data (e.g., the scale of participation of the informal sector). However, it is not necessary to have exceptionally accurate data to identify where gaps and inefficiencies exist in the current system and how to improve them. If necessary, estimates are sufficient to inform the baseline service assessment.

Simultaneous to the service review, State and Local Governments may need to consider reviewing current the policy and financial framework supporting waste and litter management, to identify where policy can aid improvements to current plastic waste recycling. The review can make use of existing policy documents but could also consult stakeholders including policymakers, waste management workers and associations (both formal and informal), private companies, financial institutions and the public to assess the success and limitations of current policies and the available budgets and financing mechanisms. Consultations can be done through interviews, surveys and workshops. Data collected from the above baseline service review can also inform the policy and financial framework review by providing quantitative evidence of where policies and the current financial framework have or have not been successful.

In evaluating the current policy and financial frameworks, State and Local Governments could:

1. Conduct a review of current State and Local policies and the extent to which these policies currently support the recycling of municipal solid waste, packaging waste and plastic waste for recycling. The following policy components might be evaluated during the policy review:

    a. The State and Local regulations defining waste management responsibilities of public bodies, private sector operators and households, mechanisms by which these responsibilities are currently enforced (e.g., fines) and instances in which mechanisms may hinder improvements in plastic waste recycling.

    b. State and Local policy goals and targets related to municipal solid waste, packaging waste and plastic waste recycling, including whether progress has been made on these goals and targets.

    c. State and Local regulations that may indirectly influence recycling performance, including policies related to women's safety and equality and the safety, security and employment of populations engaged in informal sector work.

2. Evaluate current budgets and financing mechanisms available to enable sorting and recycling infrastructure to be developed (e.g., material recovery facilities, recycling hubs), capital investments to be made (e.g., in sorting equipment) and the operational costs of recycling to be met. In evaluating the available budgets and financing mechanisms, States and Local Governments could assess the extent to which these currently support the recycling of plastic waste. In particular, the review could assess where current financing mechanisms are and are not sufficiently covering plastic waste recycling provision and why.

For an evaluation matrix which provides some of the above considerations in table form municipal solid waste, packaging waste and litter, please see the Appendix (Table A 1).

3.3.1.2 Policy Planning

State and Local Governments should consider developing a set of State and Local policies, plans, goals and targets for plastic waste recycling. As outlined in the NPPWM, for State Governments these plans will be in the form a State Plastic Waste Management Plan (PWMP). The PWMP will inform Local Governments' three-yearly Plastic Waste Management Plans.

To meet the environmental standards and health and safety requirements set by the Federal Government for waste infrastructure, State and Local Governments should develop objectives and regulations for waste treatment (under State and Local Waste Management Plans), consistent with the national policy targets, and should quantify the facilities that are needed. In some cases, the practicable scale for a treatment facility may require more waste than is or will be collected in a single Local Government authority or State, even when business waste collections are included. In such cases, it may be necessary for States or Local Government authorities to collaborate to develop a joint understanding of the facilities needed to support their combined waste management needs.

To develop effective plastic waste management policies, plans, goals and targets that also align with the NPPWM, State and Local Governments can use the policy and financial framework review outputs (Section2.3.1.1) to identify policy gaps, such as:

- Where current policy does not address national, state or local goals and targets for the improved recycling and treatment of plastic waste;
- Where current State and Local Government goals and targets related to (plastic) waste management and recycling are not being delivered and the reasons why that may be;
- Where regulations are (directly or indirectly) acting as a barrier to improving the recycling and treatment of plastic waste;

- The quantities of sorting and recycling facilities needed to recycle the quantity of plastic waste generated and collected, considering:
    - That in some cases, the practicable scale of a facility may require governments to collaborate to determine the facilities needed to support their combined waste management needs;
    - The potential for other forms of 'recycling facilities', such as small-scale re-processors and recycling hubs, to help meet plastic waste recycling targets;
    - Where budgets are constrained and/or how financing mechanisms are currently insufficient.

The above gap analysis would identify opportunities for policy development that address policy gaps, constraints in the current financial framework and misalignments with national goals and targets. In developing policy, States and Local Governments should consider involving a range of stakeholders, through multiple consultations. Consultations ensure that diverse perspectives are considered during policy writing and revision and that policies, plans and targets are deliverable. Relevant stakeholders include the formal and informal waste management sector, financing institutions, public bodies and private sector operators.

3.3.1.3 Facility Scoping and Design

Based on the outcomes of the baseline service review and gap analysis, State and Local Governments can design improvements to plastic waste recycling to meet the plastic waste management master plans, targets and policies developed from the policy planning stage (Section 3.3.1.2). Authorities should consider involving early consultation with a wide range of stakeholders in waste management including formal and informal waste sorters, and recycling operators.

In designing improvements to current plastics recycling infrastructure, States and Local Governments may need to use the results from the gap analysis (Section 2.3.1.2) to identify opportunities to improve existing waste facilities and the need for new waste facilities. State and Local Governments should consider since plastic waste is produced alongside other types of municipal solid waste, improvements in waste management may need to address a wide range of waste streams, not just plastic waste. Additionally, authorities should consider involving multiple stakeholders early in the design process to ensure that it is effective and efficient.

Designing improvements to waste facilities must simultaneously address national, state and local policy goals, plans and targets. In designing improvements, State and Local Governments could:

1. Determine the capacity that is required for each facility type, including, but not limited to, vehicle depots, waste transfer, sorting, plastics recycling, waste treatment and waste disposal facilities;

2. Consider the different options for treatment and how these align with policy goals and targets;

3. Examine the different options for recycling infrastructure, including the potential to leverage recycling hubs as well as small-scale enterprises and recycling re-processors to meet recycling targets;

4. Analyse the end markets for the recycled outputs from facilities and the income that might be achieved by improving recycling rates;

5. Consider the role of gender in waste management, including where gender inequalities lie within the formal and informal (plastic) waste sorting, recycling and treatment sectors and the opportunities to empower women.

6. Consider the role and potential to leverage ongoing activities of informal sector workers, their need for adequate labour and social protection, and how they might be integrated into, or best work alongside the formal system.

    a. Integration strategies may include increasing direct employment and supporting (micro, small, medium) enterprise development and entrepreneurship and/or extending the scope of fiscal, labour and social security regulation (where possible, given current institutional powers) to include and/or sufficiently cover informal sector workers.

b. State and Local Government should consider the risks of excluding informal sector workers that may not be legally recognised in Nigeria from access to employment through the formalisation of the system.

c. If the informal sector is not sustainably managed and adequately considered as a component of or integrated into the formal waste management system, then there is a risk of loss of livelihood to informal workers. Open and consistent communication should be established with relevant associations to reduce this risk during (and beyond) the design stage.

d. Additionally, social inclusion of informal sector workers should be encouraged through awareness raising.

7. Consider incentives to support and encourage recycling, including (where institutional powers allow) reducing import duties and taxes on recycling equipment; and

8. Determine locations for facilities, looking to optimise transport distances (and resultant costs) for collection rounds to take material to transfer and sorting facilities, and to move material to recycling and treatment facilities.

In designing facility improvements, State and Local Governments will also need to consider the cost feasibility of design options. Therefore, as part of the design processes, State and Local Governments should consider evaluating the costs associated with each element of infrastructure design, including consideration of:

- The budget constraints faced by State and Local Government;
- The involvement of the private sector in waste management (e.g., through public-private partnerships and private-sector participation) and the extent to which these can further support the operation and costs of relevant waste infrastructure; and
- New and available funding opportunities for waste sorting, processing and treatment to meet funding gaps until the role of an EPR scheme for plastic packaging waste is fully understood, established and functional. Funding opportunities are discussed in Section 3.3.2.

Additionally, State and Local Governments may need to consider:

1. The health, safety and environmental performance of waste facilities, including how to mitigate any adverse environmental impacts. In evaluating health, safety and environmental performance, State and Local Governments could consider any disproportionate effect these may have on the most vulnerable stakeholders involved.

2. Mitigating risks surrounding the recycling of materials, including plastics, which held or continue to hold hazardous substances or may contaminate the recycling stream in other ways. Facilities should handle materials, including plastics, in a way that minimises risks of contamination and consequently health and safety and environmental risks.

3. The risks involved with each element of design, and how to mitigate them, including, but not limited to:
    - Not properly integrating informal sector workers leading to a loss of livelihood; and
    - Investing significant capital into large-scale facilities, which are inefficiently managed and designed, inappropriately sited or do not meet the waste management needs of the State or local area.

3.3.1.4 Evaluation and Implementation Planning

Following options analysis for improved waste collection services and litter management, States and Local Governments will likely need to decide on a preferred option that is capable of meeting targets at the lowest practical cost. The cost could be considered alongside factors such as sustainable development goals and the ability of each option to reduce negative environmental and health impacts.

To identify a preferred service design and develop an implementation plan for the preferred option, State and Local Governments will likely have to undergo a process of options evaluation and implementation planning.

The process of evaluation may entail assessing each of the facility options against a matrix of weighted evaluation criteria. The weighting assigned to each criterion is dependent on the importance of the criteria to the State and Local Governments' overall policy goals and plastic waste management plans and targets. Scores could be generated for each service design option depending on their performance against weighted criterion. This approach would enable State and Local Governments to make an objective choice and select a preferred option. Weighted evaluation criteria can include:

- The cost of the option;
- The health and safety performance of the option;
- The environmental performance of the option, including consideration of pollution control;
- The expected recycling performance of the option and the extent to which this fulfils national, state and local plans and targets;
- The deliverability of the option considering the timeline of the national, state and local plans and targets;
- The flexibility of the option should there be a need for (re)design in the near future;
- The expected acceptance of the option by the stakeholders involved; and
- The impacts of the option on sustainable development goals relating to equality (e.g., women's empowerment, and providing safety and security to informal sector workers).

After identifying a preferred option, State and Local Governments should consider developing an implementation plan for this preferred option. Designing an implementation plan may include:

1. Designing procurement where necessary, such as enlisting the private sector in the provision of plastic waste recycling facilities;

2. Deciding how to commission each element of infrastructure provision. Possible methods include through direct public sector delivery, private sector contracting (e.g., through public-private partnerships) or third sector contracting.

    a. The role of the informal sector should be considered when exploring commissioning options, especially in areas where the informal sector is working efficiently relative to formal waste management systems.

3. Whether State and Local Governments can identify and offer up potential sites/locations for facilities;

4. Supporting private sector operators to obtain proper permits for siting facilities so that they can engage in the provision of services legitimately and responsibly;

5. Where relevant, encouraging private-sector participation in waste recycling and treatment, including the potential participation of micro-, small- and medium-sized enterprises run by recyclers formerly engaged in the informal sector.

6. Considering education and awareness raising programs to ensure responsible waste management practices are taken up by the public and informal sector workers.

Furthermore, State and Local Governments should also consider developing a timeline for implementation and establishing interim targets that represent expected implementation progress and expected progress toward long-term waste management goals and targets. This will enable State and Local Governments to measure and ensure implementation is on track and that service delivery is generating progress toward meeting the national, state and local plastic waste management targets. Ideally, the timeline would coordinate with any collection service changes, which States and Local Governments should consider. Additionally, consideration should be given to the importance of assigning responsibilities to those with the right skills to ensure successful execution of each stage of the implementation plan.

3.3.1.5 Monitoring Approach

Monitoring Implementation

To ensure effective and timely implementation of the preferred option, State and Local Governments should consider developing an approach for monitoring internal progress toward implementation. The approach would involve regularly monitoring budget, implementation timelines and progress against interim goals set within the implementation plan, resourcing and risks.

In developing an approach to monitoring implementation progress, State and Local Government should consider:

1. Assigning senior staff with the responsibility of monitoring implementation progress against interim goals set within the implementation plan.

2. Establishing actionable tasks, assigned to relevant staff members, within each phase of implementation (as outlined in the implementation plan). These tasks can be used to monitor progress towards completing each phase of implementation.

3. Establishing data requirements, including:

    a. what quantitative and qualitative data will be collected to monitor actual progress against expected progress, such as finances, resources and workloads, risk assessment and time to completion.

    b. how this data will be collected. For example, data may be collected by asking members of staff involved in each stage of service implementation to report progress through regular team meetings, reports/surveys and/or through a reporting tool/software.

    c. how data will be tracked (e.g., through a project management software) and what tools and resources (e.g., training) may be necessary to ensure accurate tracking.

4. Setting appropriate, regular intervals for monitoring including setting regular meetings with staff involved in implementation of the preferred option.

5. Determining how progress will be communicated (e.g., through reports). Progress updates would likely include information on:

    a. Milestones achieved and upcoming milestones;

    b. Timelines (according to implementation phase), including any foreseeable delays;

    c. Overall budget and budget remaining to date; and

    d. Project risks, including risks around staff workloads and resourcing, and how these project risks will be managed.

Monitoring Service Performance

State and Local Governments will have to ensure that changes to the collection service deliver required results against progress targets set within the implementation plan and against national, state and local plastic waste management targets in the longer-term. States and Local Governments should therefore consider developing an approach to monitoring performance.

The type of data that State and Local Governments may collect as part of their monitoring approach will depend on several factors including:

- Availability of data;
- Accessibility to relevant data monitoring tools;
- Engagement and discussions with industry stakeholders, including the informal sector and private companies involved in waste management; and
- Any standards set by the Federal Government for the reporting of waste management data.

An example of a reporting template, showing the type of information that a State or Local Government might need to supply to enable progress against the targets to be monitored, is shown in -Table 24 (see Section2.3.1.5).

States and Local Governments can develop an approach to monitoring the amount of waste that is recycled. This might involve:

1. Implementing reporting mechanisms and developing tools and resources that allow for data monitoring, such as:

    a. Implementing weighbridges at formal waste management sites to measure the tonnages of waste received at each step on the recycling journey, from transfer stations to sorting facilities, recycling facilities, treatment facilities and disposal sites. Weighbridges may also be used to measure the tonnages of recyclables leaving formal waste disposal sites. These machines weigh waste collection vehicles and are set into the ground for vehicles to drive onto them. Where weighbridges cannot be implemented or are non-functional, purchasing or hiring waste collection vehicles with onboard weight monitoring systems.

        i. Weight of materials collected per vehicle type can also be estimated using bulk densities of materials collected (according to vehicle type) multiplied by the volume of the vehicle compartment. This method assumes that the vehicle compartment is full when it is depositing waste at the waste management site and may need to be informed by waste composition data of the waste stream being collected. The weight per vehicle can be extrapolated using the number of vehicles (according to type) depositing waste at each site. A range of bulk densities for commonly collected material streams (accounting for vehicle and container type) can be seen in WRAP's summary report.

b. Developing requirements for facilities to collect and report metrics in a standardised way, such as data on tonnages of municipal waste treated. Any requirements for data reporting should align with data monitoring and reporting standards set by the Federal Government. State and Local Governments may need to consider providing guidance on how to measure and report contamination rates, sorting losses and reprocessing losses at facilities and how to report end destinations of recycled materials;

c. Equipping informal sector workers with equipment to potentially aid in data monitoring of waste generation, collection and/or recycling. This will likely require funding and/or formalisation of the informal sector; and

d. Developing online platforms whereby informal sector sorters can be registered to allow for more accurate monitoring of plastic waste recycling.

2. Working with the informal sector to gather information on the amount of waste that is diverted from formal waste management, by, for example:

   a. Establishing open communication channels with the informal waste management sector (e.g., through associations);

   b. Conducting surveys and gathering qualitative data to better inform current understanding of the informal sector value chain and the waste management practices adopted within the informal sector; and

   c. Developing methods to estimate the amount of waste managed and recycled through the informal sector. Involving representatives of the informal waste sector ensures that any proposed approach to estimating recycling tonnages/rates is as practical and accurate as possible. Furthermore, collaborating with representatives of the informal sector may also help empower and promote engagement with informal sector workers more widely, which will aid in data collection.

3. Developing a requirement to report and publish data and results to ensure that progress targets are being met. Data monitoring and subsequent reporting should ideally be done regularly and consistently.

   a. The monitoring approach could include a feedback mechanism to update the implementation plan if implementation progress targets are not being met as expected.

   b. In developing a monitoring approach, State and Local Governments must consider any Federal Government standards for the reporting of waste management data to ensure future compliance.

A progress matrix is provided in the Appendix (Figure A 1) which provides a high-level overview of progression from more basic to more advanced waste management systems. State and Local Governments can utilise this matrix to consider where they currently stand with respect to their recycling, policies and data monitoring approach, and how they would like to progress in future.

3.3.1.6 Implementation, Monitoring and Revision

Once an implementation plan and monitoring approach have been established, State and Local Governments can consider implementing the preferred option. For successful implementation, State and Local Governments should consider monitoring performance against the implementation plan's progress targets and against national, state and local plastic waste management targets by:

- Regularly monitoring data and evaluating progress toward interim goals, as established by the monitoring approach;
- Establishing requirements for implementation plan revision if expected progress is not met or too slow; and
- Ensuring that there are senior staff and elected representatives with responsibility for checking progress and who have the powers to make changes to the implementation plan if progress is slower than expected.

Where relevant, collecting and reporting of waste management data should meet Federal Government standards. To reach national waste management targets and goals, State and Local Governments should consider the importance of sharing standardised data with the Federal Government.

If expected progress toward implementation targets or national, state and local plastic waste management targets are not met, opportunities for revision may need to be identified. The assessment could consider the extent to which differences between waste management systems may be contributing toward success.

After identifying gaps and opportunities for revision, State and Local Governments can consider revising implementation plans and PWMPs as needed.

3.3.2 Funding

The Federal Ministry of the Environment recognises that the changes in waste management that are required will have cost implications. It has indicated that packaging waste management activities shall be mainly financed through the annual budget of National, State and Local Governments, supported by an appropriate tax regime. However, it is intended that there should

be access to a variety of equitable funding mechanisms and that States and Local Governments should be able to determine the best options for funding local packaging waste management activities that meet the required standards.

In this section we discuss the current and potential funding sources that may be available to support the capital and revenue expenditures required to implement changes. However, many of the mechanisms available are likely to be best suited to meeting annual costs, and it may be necessary to fund some investments through borrowing, grants or attracting private finance, with any repayments met through annual income.

3.3.2.1 Federal Funding Programmes

To assist in implementing new waste management services, States and Local Governments can obtain support through existing Federal funding programmes, such as:

- National Plastic Waste Recycling Programme;
- Waste to Wealth Entrepreneurship Programme;
- Community-based Solid Waste Management Programme.

These funding streams have specific areas of focus and may only be suited to funding narrow aspects of the overall transformation that States and Local Government authorities are required to make. They will likely need supplementing by other sources of funding, particularly given the higher capital cost element of the facilities.

3.3.2.2 Extended Producer Responsibility

Funding for waste management in respect of plastic and other packaging waste will be provided through a system of extended producer responsibility (EPR). EPR will place responsibility on packaging producers to fund the collection and management of the waste they place on the Nigerian market, to a standard that enables recycling targets to be met. Packaging producers will therefore be key stakeholders in the implementation of future waste management systems, including the infrastructure required.

The value of EPR funding, the precise services whose costs it will cover, how it will be paid and any performance standards that need to be met to qualify for it are yet to be determined. It should, however, support both capital and revenue costs, including the costs of communicating with and educating the public. The funding available through this route will apply only to the management of packaging waste, and therefore the resources to fund other elements of the waste management system will need to be found from elsewhere. States and Local Government should ensure that recycling services that are funded through EPR are made free of charge to end users.

3.3.2.3 User Charging

Whilst, in the future, the costs of collection, recycling and disposal of packaging will be met by producers, in the interim, and for non-packaging wastes, some or all the system cost will need to be met by the householder. A well-designed charging system can incentivise householders to:

- Reduce the amount of chargeable waste that they generate, to avoid costs; and
- Favour the use of low or zero cost routes for waste management, such as recycling.

However, a badly designed scheme that does not have appropriate safeguards and enforcement in place can lead to an incentive for householders to dispose of waste though illegal dumping (i.e., at uncontrolled dumpsites) or uncontrolled burning to avoid the charges.

Charging can be on a "per collection" basis, or on a "subscription" basis. A subscription is more difficult for householders to avoid and means that there is less incentive to dispose of waste illegally (since disposal has already been paid for); but it also means there is less incentive to reduce and recycle waste.

Charges for residual waste management should be higher than for recyclable materials, but enforcement will then be needed to ensure that householders do not seek to avoid costs by putting non-recyclable materials in their recycling containers.

3.3.2.4 Landfill Tax/Charges

A landfill tax or minimum landfill charges have the potential to raise income to cover the costs of running the landfill, its after-care once it is full, and even a surplus that may be spent on other waste management services.

The tax or charge places an incentive on those delivering waste to the landfill to reduce the amount of waste that requires disposal, and to pass on this incentive to their customers by either reflecting it their charges to customers or by otherwise encouraging them to reduce waste.

As with direct user charging, enforcement is required to ensure that the response to the incentive is not to dump waste illegally. Collectors found to be illegally dumping waste (i.e., at uncontrolled dumpsites) should be at risk of losing their permit to collect waste.

3.3.2.5 Fines

Part of the enforcement system for proper waste management is likely to be the enforcement of fines on people who dispose of waste in inappropriate ways – whether littering, fly-tipping, or poor segregation of recyclables that leads to contamination of containers. The fines levied to

discourage this behaviour may be a source of income. However, it is undesirable to rely on fines as a regular source of income, as their purpose is to deter poor waste management behaviour; if fines work as intended, they should be a declining source of income as they achieve their desired effect of bringing about compliance with waste legislation.

3.3.2.6 Other Sources of Finance

In addition to the major income streams discussed above, States and Local Governments may wish to explore the potential to source funding for projects from other sources. Avenues to explore include:

- Donor funding
- Development partners/philanthropic organisations
- Ecological funds

These sources of funding will tend to require time to be invested in making applications and are unlikely to be suitable for funding day to day services but may be appropriate to support more capital-intensive projects, pilots/test facilities, or projects that have particular social value, over and above their contribution to plastic waste management.

Appendix

Table A 1: Evaluation Matrix for Improving Collection, Diversion and Recycling

MUNICIPAL SOLID WASTE COLLECTION:	MUNICIPAL SOLID WASTE DIVERSION:	MUNICIPAL SOLID WASTE RECYCLING:
1. What is the current collection frequency (daily, weekly, bi-weekly)?	1. What percentage of municipal solid waste is diverted from disposal sites?	1. What percentage of municipal solid waste is recycled?
2. What are the collection methods (door-to-door, community bins, kerbside)?	2. What are the primary diversion methods (recycling, composting, energy recovery)?	2. What materials are recycled (paper, plastic, glass, metal, etc.)?
3. Are there separate collections for organic, inorganic, or recyclable waste?	3. Are there any waste reduction or minimization programs in place?	3. Are there any kerbside recycling programs or drop-off centres?
4. What types of vehicles are used for collection?	4. How is organic waste (food waste, yard trimmings) managed and diverted?	4. How is recyclable waste sorted and processed?
5. Are there any specialized collections (e.g., bulk waste, hazardous waste)?	5. Are there any construction and demolition (C&D) waste diversion programs?	5. Are there any quality control measures for recyclables?
6. How is waste stored and transported to disposal sites?	6. What are the diversion rates for specific materials (paper, plastic, glass, metal)?	6. What are the contamination rates for recyclables?
7. Are there any weight or volume limits for collection?	7. Are there any pay-as-you-throw or volume-based waste collection systems?	

PACKAGING WASTE COLLECTION:	PACKAGING WASTE DIVERSION:	LITTER DIVERSION:
1. Are there dedicated collections for packaging waste?	1. What percentage of packaging waste is diverted from disposal sites?	1. What percentage of litter is diverted from disposal sites?
2. What types of packaging materials are accepted (plastic, paper, glass, etc.)?	2. Are there any extended producer responsibility (EPR) policies for packaging waste?	2. Are there any litter prevention programs (e.g., public awareness campaigns)?
3. Are there any specific guidelines for preparing packaging waste for collection?	3. What are the primary diversion methods for packaging waste (recycling, reuse)?	3. How is litter collected and diverted from public spaces?
4. How is packaging waste sorted and processed?	4. Are there any packaging waste reduction or design-for-recyclability initiatives?	4. Are there any community-based litter diversion initiatives?

PACKAGING WASTE COLLECTION:	PACKAGING WASTE DIVERSION:	LITTER DIVERSION:
5. Are there any partnerships with private companies for packaging waste management?	5. How is packaging waste sorted and processed for diversion?	5. What are the primary diversion methods for litter (recycling, proper disposal)?
	6. Are there any partnerships with private companies for packaging waste diversion?	6. Are there any partnerships with private companies for litter diversion?
	7. What are the diversion rates for specific packaging materials (plastic, paper, glass)?	7. How is litter diversion data tracked and reported?

LITTER COLLECTION:	LITTER DIVERSION:	LITTER RECYCLING:
1. How often is litter collected from public spaces?	1. What percentage of litter is diverted from disposal sites?	1. Is litter collected and recycled separately from other waste streams?
2. What methods are used for litter collection (manual, mechanical, or a combination)?	2. Are there any litter prevention programs (e.g., public awareness campaigns)?	2. What percentage of litter is recycled?
3. Are there any specific focus areas for litter collection (e.g., high-traffic areas, parks)?	3. How is litter collected and diverted from public spaces?	3. What materials are recycled from litter (plastic, paper, glass, etc.)?
4. How is litter disposed of after collection?	4. Are there any community-based litter diversion initiatives?	4. Are there any specialized recycling programs for litter?
5. Are there any public awareness campaigns to reduce littering?	5. What are the primary diversion methods for litter (recycling, proper disposal)?	5. How is litter sorted and processed for recycling?
	6. Are there any partnerships with private companies for litter diversion?	6. Are there any public awareness campaigns to promote litter recycling?
	7. How is litter diversion data tracked and reported?	7. How is litter recycling data tracked and reported?

ADDITIONAL QUESTIONS TO CONSIDER:		
1. What are the current collection coverage rates (percentage of population served)?	1. What are the diversion targets or goals for municipal solid waste, packaging waste, and litter?	1. What are the recycling infrastructure and facilities (sorting facilities, recycling plants, etc.)?
2. What are the collection costs and funding mechanisms?	2. Are there any waste diversion infrastructure or facilities (recycling plants, composting facilities)?	2. Are there any recycling education or outreach programs?

ADDITIONAL QUESTIONS TO CONSIDER:		
3. Are there any technological innovations (e.g., smart bins, waste tracking apps) used in collection?	3. How is waste diversion data tracked and reported?	3. How is recycling funded (government, private sector, user fees)?
4. How is waste data collected and used to inform collection strategies?	4. Are there any waste diversion education or outreach programs?	4. Are there any recycling innovations or pilot projects?
5. Are there any collaborations with community groups or private sector partners for collection?	5. How is waste diversion funded (government, private sector, user fees)?	5. How is recycling integrated with other waste management or environmental initiatives?
	6. Are there any waste diversion innovations or pilot projects?	6. Are there any recycling performance metrics or targets?
	7. How is waste diversion integrated with other urban planning or environmental initiatives?	7. How is recycling data used to inform decision-making?

Figure A 1: High-Level Progress Matrix from more Basic to Advanced Waste Management Systems

BASIC

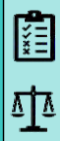
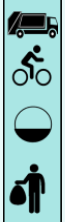
Level	Policies		Collections		Disposal		Recycling		Data Monitoring	
Level 1		- Outdated/non-existent waste management targets - Non-existent/ill-defined stakeholder responsibilities - Policies not regularly reviewed and/or act as a barrier to operational improvements - Policies related to justice/equality non-existent and/or act as a barrier to equality improvements		- Largely small-scale service providers - High proportion of informal sector collectors - Incomplete coverage or infrequent/unsatisfactory collections - Many households bring waste to the waste collector or drop off waste at unmanaged drop-off points		- A high proportion of waste openly burned or directly littered - The best available disposal option for many is an uncontrolled dumpsite - No enforcement mechanisms in place to discourage negative waste management behaviours		- Little opportunity for households to recycle - Small-scale recycling practices focus on few, high value materials - Recycling practices generate health and safety and environmental risks - Informal sector workers may pick recyclable material from uncontrolled dumpsites, exposing them to health and safety risks.		- No monitoring approach for service implementation and performance. - Service performance rarely if ever monitored - Progress against targets rarely if ever reviewed, reported and published - Waste management data likely to be low quality due to lack of tools and resources to accurately measure/estimate data points - Informal sector not engaged in data monitoring
Level 2		- Responsibilities of stakeholders defined but not enforced - Policies regularly reviewed and updated - Targets defined, but progress not reported - Justice/equality policies in place but not enforced		- Mix of small-scale and large-scaler service providers - May involve public sector or formal private sector collectors - Coverage is not complete, frequent or fully satisfactory - Some households bring waste to the waste collector or drop off waste at unmanaged drop-off points		- A high proportion of waste dumped in controlled dumpsites with some environmental controls and oversight - Some uncontrolled dumping, open burning and littering persists - Enforcement mechanisms in place to discourage negative waste management behaviour		- Some opportunity for households to recycle common materials at drop-off sites - Mix of large-scale and small-scale recyclers - Some recyclate is low-quality and/or contaminated - Small-scale recycling practices generate health and safety and environmental risks - Informal sector workers may pick valuable, recyclable material from uncontrolled and controlled dumpsites, exposing them to health and safety risks.		

Figure A 1: High-Level Progress Matrix from more Basic to Advanced Waste Management Systems

Level	Policies		Collections		Disposal		Recycling		Data Monitoring	
ADVANCED Level 3		- Responsibilities of stakeholders defined and enforced - Policies regularly reviewed and updated - Targets defined and progress reported - Justice/equality policies in place and enforced		- Mix of large-scale and small-scale service providers, but all regulated - Complete coverage and collections are consistent and reliable - Many collections are door-to-door where appropriate, and/or waste can be deposited in organised shared containers (such as skips) or community facilities - Informal sector workers integrated into or work alongside the formal sector		- Little to no uncontrolled dumping, open burning or littering takes place - Some waste dumped in sanitary landfill - Controlled dumpsites remain in use - Enforcement mechanisms in place to discourage negative waste management behaviour		- Widespread opportunity for households to recycle common materials, mainly through drop-off - Mix of large-scale and small-scale recyclers - Some recycling practices generate high-quality recyclate - Some oversight of small-scale recycling practices that encourage development of safe practices - Informal sector workers are engaging in less waste picking and are more integrated into or working alongside the formal system.		- Monitoring approach for service implementation and performance developed - Senior staff assigned responsibility for monitoring - Service performance monitored regularly using established monitoring tools and platforms - High quality waste management data collected at regular intervals, reported and published, meeting standards set by the Federal Government - Methods for gathering difficult-to-estimate data points established - Informal sector engaged in data monitoring
Level 4						- Most waste dumped in sanitary landfill - Controlled dumping practices significantly reduced - Little or no uncontrolled dumping, open burning or littering - Enforcement mechanisms in place to discourage negative waste management behaviour		- Widespread opportunity for households to recycle a wide range of materials, including through door-to-door collections - Mix of large-scale and small-scale recyclers - Most recycling practices generate high-quality recyclate - Widespread oversight of small-scale recycling practices resulting in mostly safe practices - Informal sector workers are engaging in less waste picking and are integrated into or working alongside the formal system.		

PART TWO

Single-Use Plastics Guidelines

Single-Use Plastics Guidelines

1.0 Introduction

The 'Single-use Plastics Guidelines' were developed to support implementation of the following focus areas in the National Policy on Plastic Waste Management (NPPWM), in which State and Local Governments have a role to play:

- Measures to support the elimination and reduction of single use plastics.

Improved collections and recycling of plastic wastes will be crucial to improving the circulation of single use plastics (i.e., their use, disposal and end of life treatment in accordance with circular economy practices). As such, measures to improve the management of single use plastic waste will not be covered in these Guidelines but will fall within the scope of separate guidelines on 'Improved Collection, Diversion and Recycling of Plastic Waste' (Part One of this document). Some measures that could support this broader objective, such as extended producer

responsibility (EPR) and deposit return schemes (DRS), are discussed here, to the extent that they are relevant to State and Local Governments.

This guideline covers actions that can be taken by State and Local Governments to tackle single use plastics that are in the scope of the NPPWM and that arise primarily in the household (or similar) waste streams. Other types of plastic waste mentioned in the policy, such as fishing gear, are therefore not covered in detail.

It is important to note that this guideline focusses on the requirements of the policy as the minimum that states and local governments must achieve. State and Local Governments can exceed these requirements and targets if they so wish. Part Two is structured as follows:

- Section 2.0 on the scope of single use plastics covered in the NPPWM and relevant terminology;
- Section3.0 on national policy targets and goals related to single use plastics;
- Section4.0 on actions and implementing considerations to tackle single use plastics;
- Section5.0 on combining and sequencing of actions; and
- Section6.0 on data collection and monitoring.

2.0 Single Use Plastics in the NPPWM

The NPPWM highlights the restriction of unnecessary single use plastics (hereafter referred to as SUPs) as an essential component of making 'Nigerian cities, ecosystems and human settlements clean, plastic litter free and sustainable' and to ensuring 'sustainable consumption and production patterns'.

It has been estimated that Nigeria is among the world's top 20 countries contributing to marine litter.[34] The NPPWM recognises the link between uncontrolled SUP consumption and marine pollution stating that 'single-use plastic products and fishing gear containing plastic are therefore a particularly serious problem in the context of marine litter and pose a severe risk to marine ecosystems, biodiversity and, potentially, to human health and are impacting activities such as tourism, fisheries and shipping'.

[34]Heinrich Böll Foundation (2020) Plastic Atlas: facts and figures about the world of synthetic polymers. Available at https://ng.boell.org/sites/default/files/2021-06/Plastic%20Atlas%202020_Nigeria%20Articles_compressed.pdf

The NPPWM places emphasis on 12 key SUP items, listed in Annex 1, and makes provision for a range of possible measures to restrict, and in some cases eliminate, their consumption and production in the future. Throughout the policy document, particular emphasis is placed on measures to reduce the consumption of SUP carrier bags and on the need to 'promote the sustainable use of alternatives to single use plastics e.g., jute bags, leaves, paper, glass bottles etc' as part of any SUP reduction or elimination measure. Where elimination and reduction of SUPs is not currently feasible, the policy also notes the need for measures to reduce littering and improve the circularity of SUPs, as Extended Producer Responsibility (EPR) and Deposit Refund Systems (DRS).

Within this guideline, extra considerations are made throughout regarding Nigeria's specific context, which should be kept in mind when designing measures to tackle SUPs. These considerations include:

- Areas in which State and Local Governments may consider further action to tackle SUPs beyond what is required in the NPPWM, reflecting the fact that different State and Local Governments will have different levels of performance and ambition.
- Specific design and implementation considerations State and Local Governments should be aware of to ensure that actions are feasible and effective in their own context.
- Different alternatives to SUPs and their relative pros and cons.
- The necessity for harmonised actions across all states, or action at the Federal level, to prevent market fragmentation and inefficiencies in certain circumstances.
- The risk of unintended consequences (e.g., a significant negative impact on women).

2.1 Scope and Key Terms

It is important that in using these guidelines, all State and Local Governments have the same understanding and interpretation of key terms, to ensure that they are working collectively towards the overarching objectives of the NPPWM. The following terms are used in relation to SUPs in the NPPWM:

- Plastic' is 'a material consisting of any wide range of synthetic or semi-synthetic organic compounds that are malleable and so can be moulded into solid objects.'
- On-the-go single use plastic' is referred to as 'including a diverse range of commonly used fast-moving consumer products that are discarded after having been used once for

the purpose for which they were provided, are rarely recycled, and are readily discarded.' The definition also recognises that SUP plastic products can be made from a range of plastic polymers. Plastic products which are designed and placed on the market to be reused multiple times are excluded from this definition.

- Carry bags' are 'bags made from plastic material or compostable plastic material, used for the purpose of carrying or dispensing commodities which have a self-carrying feature but do not include bags that constitute or form an integral part of the packaging in which goods are sealed prior to use.'
    - Annex 1 of the NPPWM, which lists a number of SUPs, further refers to 'lightweight plastic carrier bags' but does not provide a separate definition.
    - The NPPWM also refers to 'single use on the go' plastic bags with 'on-the-go single use plastic' discussed separately in the glossary of the NPPWM as discussed under the first bullet above.
    - The only reference to plastic carrier bag thickness in the NPPWM is in the policy goal to phase out single use on the go plastic bags below 30µm.[35]
- Recycling' is 'a process to change waste materials into new products to prevent waste of potentially useful materials.'
- Repurpose/ reuse' is referred to as including 'conventional reuse where the item is used again for the same function, and new-life reuse where it is used for a different function. By taking useful products and exchanging them, without reprocessing, it helps to save time, money, energy, and resources.'
- Biodegradation' is the 'decomposition of organic material by microorganisms. The term biodegradation is often used in relation to sewage treatment, environmental remediation (bioremediation) and to plastic materials.'
- Compostable plastics' are referred to as 'plastic that undergoes degradation by biological processes during composting to yield CO2, water, inorganic compounds and biomass at a rate consistent with other known compostable materials, excluding conventional petro-based plastics, and does not leave visible, distinguishable or toxic residue.'
- EPR' is 'an environmental protection strategy with the objective of decreasing total environmental impact from a product including its packaging, by making the producers

[35] It is noted that in the NPPWM, this originally stated a phase out on single use on-the-go plastic bags above 30µm. After seeking clarification on this point, this was amended to below 30µm, in line with other countries.

of the product responsible for the entire lifecycle of the product, and the take back recycling and final disposal of the product including its packaging.[1]

In terms of scope, Annex 1 in the NPPWM includes the SUPs listed below. In addition, section 2.3 of the NPPWM also highlights the need to restrict the use of Styrofoam and SUP cutlery alongside other SUPs.

1. Food containers,
2. Cups for beverage,
3. Straws,
4. Cotton bud sticks,
5. Sticks for balloons and balloons,
6. Packets and wrappers,
7. Beverage containers, their caps and lids – beverage bottles,
8. Sachet water packaging,
9. Tobacco product filters,
10. Lightweight plastic carrier bags,
11. Lightweight plastic wrappers/storage bags and
12. Fishing gear.

The terminology used in the NPPWM is provided in the context of a glossary rather than legal definitions, and no further definitions are provided for the items listed in Annex 1. Therefore, this guideline provides an updated set of terms in order to support consistent interpretation and the implementation of measures related to SUPs. For the purposes of clarity, and to ensure that the definitions of these terms are aligned with those used by the UN, the following updated scope and definitions will be used in these guidelines and should be adopted by State and Local Governments.

- Single-use plastics (SUPs) are packaging and non-packaging products made in part or wholly from plastic which are not designed or distributed with the intention for multiple use for the same, original purpose.

- On-the-go' plastic packaging is within scope of the above definition of single-use plastic. 'On-the-go' plastic packaging refers to packaging which is used for the consumption of products either on the spot or as a take-away. It is recommended that states use the above definition of SUPs instead of on-the-go.
- Fishing gear as defined in EU Directive 2019/904 does not technically fall under the above definition of SUP. However, fishing gear is often included in SUP inventories, since abandoned, lost or discarded fishing gear containing plastic poses similar (though not identical) problems to SUPs in the context of marine litter, with serious risk to marine ecosystems, biodiversity, human health and economic activities such as fishing, tourism and shipping. As noted previously, this guideline focuses on SUPs (including plastic packaging) covered by the NPPWM that typically arise in the household (or similar) waste stream – therefore measures to tackle fishing gear are not the focus.

- Single-use plastic carrier bags are bags, with or without a handle, which are supplied to the customer at the point of sale of products or goods i.e., 'over the counter'. This does not include bags which form an integral part of the packaging in which goods are sealed prior to use.
  - On-the-go plastic carrier bags are included within the above definition of single-use plastic carrier bags as per the description of 'on-the-go' plastic packaging above.
  - The guidance in this document focuses on lightweight plastic carrier bags in particular, a description of which is provided in Table 2.1 below.
- Section 2.3 of the NPPWM also highlights the need to restrict the use of Styrofoam alongside other SUPs. The name Styrofoam is a trademarked brand and manufacturer of polystyrene, and is often erroneously used to refer to expanded polystyrene (EPS) foam; this guidance therefore uses the term EPS foam instead of Styrofoam throughout. Since not all EPS products are single use plastics, this guideline further clarifies that State and Local Governments have a responsibility to phase out the following EPS items:
  - Expanded polystyrene food containers;
  - Expanded polystyrene beverage containers and cups.
- On a voluntary basis, State and Local Governments may also consider measures to tackle the following additional SUP items, which were not included in the NPPWM, but which may be considered unnecessary and subject to guidance in this document. These

items are well known SUPs which are commonly littered. Wet wipes and absorbent hygiene products in particular contribute to blockages of wastewater and sewage systems.

- Beverage stirrers
- Covers and lids for beverage cups
- Wet wipes
- Nappies and other absorbent hygiene products (AHPs).

For the purposes of interpreting this document consistently, descriptions for these additional items, as well as for the items listed in section 2.3 and Annex 1 of the NPPWM are provided in Table 2.1 below, although these do not represent legally binding definitions.

Table 2.1 Description of SUP items listed in Annex 1 of the NPPWM and other SUP items that could be considered for voluntary measures

ITEM	DESCRIPTION
Food containers (including food containers made of EPS)	Food containers which are not designed for multiple use/refill by consumers. In line with EU Directive 2019/904, these containers are typically sold 'pre-filled' with food which is intended for immediate consumption, is often consumed from the container and is ready to be consumed without further preparation e.g., cooking or heating. This can include for instance fast food containers, salad boxes and some ready meals.
Cups for beverage (including beverage cups made of EPS)	Beverage cups for both hot and cold drinks which are not designed for multiple use/refill by consumers. This includes, for instance, containers used to serve and consume take-away tea or coffee. Cups made of paper/ card with a plastic lining should also be considered since they are commonly littered and the plastic lining makes them very challenging to recycle.
Straws	Straws made entirely or partly from plastic which are not designed to be reused multiple times and are sold either individually or as part of a packaged product.
Cotton bud sticks	Plastic sticks which are topped with cotton that is directly attached and cannot be removed or replaced. Sometimes also referred to as swab sticks. These are used for a range of everyday medical tasks and applications.

ITEM	DESCRIPTION
Sticks for balloons and balloons	Balloons can be made of either rubber or plastic. Plastic (mylar) balloons have a seam and are made of a metal (foil) coated plastic such as polyethylene or nylon. They usually have a shiny, reflective surface and often have designs with pictures and/or words. Latex balloons are the traditional 'party' balloons. They are also often used at festivals, open houses, sales, mass balloon releases, etc. These balloons are made of natural or synthetic latex, are usually round or oval in shape, and can come in a variety of colours.[38] Balloon sticks are plastic sticks to which a balloon is directly attached to give the impression of floating. The stick has a 'cup' attached so it can fix to the balloon without puncturing it.
Packets and wrappers	Packets and wrappers which once first opened cannot be resealed to create the same storage conditions. Such packets and wrappers are made from flexible plastic material (sometimes in combination with other materials like aluminium) and typically contain food which is intended for immediate consumption. This includes crisp packets and sweet wrappers for instance.
Beverage containers (incl. caps and lids) – beverage bottles	Drinks bottles (plus their caps and lids) which are not designed for multiple use (i.e., to be refilled with the same product).. These bottles are sold 'pre-filled' compared to reusable drinks bottles which are typically sold empty. The majority of SUP beverage bottles are made from PET plastic.
Sachet water packaging	Heat-sealed, thin single-use plastic (often polyethylene) bags used to contain and sell clean drinking water.
Tobacco products filters	The plastic parts of products which consist, wholly or partly, of tobacco and which contain filters or 'butts' made of plastic (usually cellulose acetate). Other tobacco related single use plastics include packaging for tobacco products (including plastic wrap or sleeves around cigarette cartons, flexible plastic tobacco pouches, etc.).
Lightweight plastic carrier bags	Bags with a wall thickness of below 30µm, with or without a handle, and which are supplied to the customer at the point of sale of products or goods. This definition is aligned with other African countries (e.g., Mozambique, Senegal, South Africa) which have introduced bans on bags with a thickness less than 30µm.
Lightweight plastic wrappers/storage bags	Lightweight plastic wrappers include wraps, sacks and bags made of thin mono-material plastic (such as that used to package some fruit and vegetables). Lightweight storage bags can be understood as carrier bags and other plastic bags for storing food that is not for immediate consumption.

[38] https://marinedebris.noaa.gov/why-does-datasheet-have-balloons-listed-under-both-plastic-and-rubber-items

ITEM	DESCRIPTION
Fishing gear	Fishing gear, as defined in EU Directive 2019/904 on the reduction of the impact of certain plastic products on the environment, refers to any item or piece of equipment used in aquaculture or fishing to target, attract, capture or rear marine biological resources, such as dredges, gillnets, pots and traps. Fishing gear containing plastic (e.g., fishing nets, ropes, buoys, etc.) which is abandoned or lost at sea can have a negative impact on marine life as well as commercial fishing and coastal recreation. Fishing gear as defined above does not technically fall under the definition of SUP as discussed in the preceding section, and the policy measures to tackle SUPs may not always be appropriate for these items. However, fishing gear is often included in SUP inventories, since abandoned, lost or discarded fishing gear containing plastic poses similar (though not identical) problems to SUPs in the context of marine litter, with serious risk to marine ecosystems, biodiversity, human health and economic activities such as fishing, tourism and shipping.
Cutlery	SUP cutlery refers to disposable plastic cutlery that is designed and intended for eating or serving food including forks, knives, spoons, chopsticks and other similar utensils made wholly or partly from plastic and not designed for multiple use by customers. This includes cutlery provided alongside takeaway food, for instance.
Beverage stirrers (additional item for voluntary measures)	Implements made partly or wholly of plastic designed and intended for stirring drinks but not designed for multiple use by the customer. This can include stirrers used in takeaway beverage shops or cafes.
Covers and lids for beverage cups (additional item for voluntary measures)	Plastic lids (including but not limited to 'sip lids' and lids with apertures for straws), caps and covers designed to prevent either hot or cold drinks from spilling, or to create an airtight seal to protect the beverage. They are usually provided as part of the beverage cup at the point of sale.
Wet wipes (additional item for voluntary measures)	Also known as wet towel, disposable wipe, disinfecting wipe, cleansing wipe, moist towelette, baby wipes, etc., these are small pre-moistened pieces of non-woven fabric made from plastic used for cleaning or hygienic purposes.
Nappies and other AHPs (additional item for voluntary measures)	Absorbent hygiene products used to absorb bodily fluids and wastes, such as nappies and incontinence pads, as well as sanitary pads and tampons among others, made using plastics and intended to be discarded after a single use.

3.0 National Policy Targets and Goals for SUPs

The NPPWM highlights a range of policy objectives and measures related to SUPs as summarised in the image below and detailed in the text that follows:

- Economic measures (tax, levies and charges) on all on-the-go single-use plastics (Annex 1) with the ultimate aim of bans.
    - Reduce SUP carrier bag consumption through restricting their free availability through a 5% charge on all single-use grocery bags by 2022.
- Phased ban on items in Annex 1 from 2025.
    - From 2020, there will be a state target to reduce the use of plastic bags per person by 50%.
    - Phase out bags below 30μm in thickness by December 2028.
    - To phase out Styrofoam (expanded polystyrene foam) from January 2025, effective by December 2028.
    - To ban four categories of single-use on-the-go plastic such as plastic bags, cutlery, Styrofoam, straws effectively from January 2025.
- Mandatory EPR schemes on all packaging items.
    - To implement charges for SUPs under mandatory EPR scheme from May 2021.

5% deposit refund system for plastic beverage containers.

- Promote suitable non-plastic and recyclable alternative materials, such as jute or cotton woven bags, from May 2020.
- Awareness raising to discourage littering, promote beach clean ups and shift consumer habits.

Regarding the specific responsibilities of state governments and agencies, as well as LGAs in relation to the above objectives, the NPPWM notes that:

1. State governments must develop state plastic waste management policy, guidelines and plans using the national instrument as their basis and minimum standards, and
2. Local government authorities shall implement the Policy Guidelines on Plastic Waste Management as a statutory obligation.

More specifically, the NPPWM also notes that State and Local Governments are required to:

- From 2020, prepare plastic waste management plans with set targets every decade. These targets cannot be lower, but can exceed, those targets set by the Federal government.
- From 2020, each state is to reduce the use of plastic bags per person by 50%.
- Set out strategies for the financing of plastic waste management within the state such as through customer-service fees.
- Encourage social inclusion and collaboration in public awareness raising around waste minimisation and management.
- Develop mechanisms, equipment and training for data collection on plastic waste generation and activities.
- Set modalities for the creation of a plastic bags levy.
- Promote Green Public Procurement that supports environmental sustainability.

State and Local Governments therefore have a key role to play in supporting efforts to tackle single-use plastics by:

- Imposing bans, levies, charges or other measures to restrict or eliminate the use of SUPs.
- Supporting and enabling the development of alternatives to SUPs with improved environmental performance (e.g., through green public procurement).
- Providing incentives for consumers to adopt alternatives to SUPs with improved environmental performance.
- Taking enforcement action and implementing penalties for incorrect plastic waste management and failure to comply with bans, levies and charges.
- Gathering data on plastic consumption and plastic waste generation and monitoring the impact of SUP management actions.
- Raising awareness and encouraging social inclusion in actions to reduce SUP consumption and littering.

4.0 Actions and Implementation Considerations

The following sections provide more detailed guidance on factors for State and Local Governments to consider when implementing measures related to SUPs, focussing on the necessity for and availability of alternatives to SUPs, as well as the following six key actions:

- Phased bans (Section4.2.1);
- Consumer facing charges (Section4.2.2);
- Extended producer responsibility (EPR) (Section4.2.3);
- Deposit refund systems (DRS) (Section4.2.4);
- Awareness raising (Section4.2.5); and
- Green public procurement (GPP) (Section4.2.6).

These actions cover most of the relevant measures listed in Annex 1 of the NPPWM, namely consumption reduction, market restriction, EPR and awareness raising. Separate collection requirements and diversion from landfill to increase recycling are covered in detail in a separate guideline, and additional information regarding DRS as a form of separate collection has been included below. EPR and DRS are discussed, as State and Local Governments have an important role to play in these systems, however, such systems must be implemented at the Federal level - State and Local Governments should therefore wait for more information from the Federal Government regarding implementation.

Product design and labelling requirements, though important, are not covered here. This is because design and labelling obligations would be most effective if harmonised across all states at a national level and therefore should be implemented by the Federal Government. In addition to the measures in Annex 1, green public procurement is also included below as an important action which states should consider.

4.1 Promoting Alternatives to SUP items

When deciding whether to reduce or eliminate consumption of SUPs states should consider the necessity of the item and the availability of alternative products and systems. For instance, where the consumption of an SUP is for convenience only and alternatives are widely available, a ban (or charge) is likely to be suitable. Conversely, where there is a clear need for an SUP item and there are limited suitable alternatives available then an immediate ban may not be suitable. Instead, phased reductions, collection and recycling system changes, EPR or a deposit refund system, or consumer facing charges could be more appropriate. The NPPWM therefore required states to promote the sustainable use of alternatives to single-use plastics from May 2020.

Alternatives to SUP items can be categorised as followed:

- Single-use non-plastic products which are made from non-plastic materials though are still designed to be single-use; and
- Multiple use products which are designed for more than one use and can be made from any material (including plastic).

These alternatives may include bio-based plastics (that are either designed for single-use or multiple uses). In this regard, it is important to note the definitions of, and differences between, bio-based plastics, biodegradable plastics and compostable plastics:

- **Bio-based plastics** are plastic materials which are derived from plant-based sources. Bio-based plastics may not be entirely plant-based and may have mixed proportions of fossil and plant-based materials. Bio-based plastics include PLA (polylactic acid), PHAs (polyhydroxyalkanoate), starch blends and bio-PBS(A) (polybutylene succinate). Bio-based plastics are not necessarily compostable as the chemical process through which they are produced can create polymers identical to conventional plastics.[37]

- **Biodegradable plastics** degrade under the action of microorganisms, releasing water, carbon dioxide and/or methane in the process. Biodegradability depends on the environment and timeframe in which biodegradation is taking place, as well as the presence of bacteria, fungi and oxygen. [38] Some biodegradable plastics will decompose in some environments (e.g., industrial composting) but at a considerably slower rate or not at all in others (e.g., landfills, on land or in the marine environment).[39]

- **Compostable plastics** are either bio-based or fossil-based plastics which are designed to biodegrade under specific controlled conditions. These usually relate to conditions in industrial composting facilities, and such products may not necessarily degrade in a home composting environment, in the ocean or in any other natural environments.[40]

It should be noted that oxo-degradable plastics should not be considered a viable alternative to SUPs. These are usually made from conventional plastic materials, with additive properties that mimic biodegradation. In reality, however, these materials do not actually degrade in the environment, but rather break down into very small fragments which then remain in the environment causing issues associated with micro- and nano-plastics.[41] The use of such materials has already been banned across the EU, and the Ellen McArthur Foundation has called for a worldwide ban as well.[42]

[37] https://bioplasticseurope.eu/about
[38] https://www.nature.com/articles/s41529-022-00277-7
[39] http://www.cprac.org/en/news-archive/general/scp/rac-publishes-the-information-document-for-the-preparation-of-guidelines-to
[40] https://www.rsc.org/globalassets/22-new-perspectives/sustainability/progressive-plastics/explainers/rsc-explainer-2---compostable-and-biodegradable-plastics.pdf
[41] https://docs.european-bioplastics.org/publications/bp/EUBP_BP_Additive-mediated_plastics.pdf
[42] https://www.ellenmacarthurfoundation.org/oxo-statement#:~:text=The%20Ellen%20MacArthur%20Foundation's%20view,behaviour%20in%20real%20world%20environments.

4.1.1 Single-use non-plastic alternatives

States could consider the following single-use non-plastic alternatives to the SUP items in Table 2.1:

a) Paper carrier bags,
b) Paper or cardboard dishes and food containers (without plastic lining),
c) Foil food containers,
d) Bamboo cutlery and food containers,
e) Wooden cutlery,
f) Wooden drinks stirrers,
g) Paper straws,
h) Paper stemmed cotton buds,
i) Paper, card or wooden balloon sticks,
j) Hemp/fibre cigarette filters or paper filters (not suitable for pre-rolled cigarettes),
k) Aluminium cans and glass beverage bottles (see risks below).

RISKS:

States should bear in mind that switching from SUP products and packaging to single-use non-plastic items without further incentives for consumers to change behaviour is likely to have little impact on littering and waste generation. Although materials such as paper and card can be recycled, the separate collection, sorting and recycling infrastructure for paper in Nigeria would need improvement to handle an increase in these recycling streams.

Switching to the above materials may also have negative impacts at other points in the product lifecycle, including economic impacts (e.g., higher cost of production and therefore prices) and environmental impacts (e.g., higher raw material and energy use in production, particularly for glass).

For example, with regards to paper, for lowest environmental impact of production, paper bags should be sourced from efficient integrated mills using recycled fibres, renewable energy and sustainable forestry practices. The benefits of adopting paper as an alternative material therefore depend on how paper products and packaging are manufactured and treated at end-of-life.

States should therefore consider the added value of adopting such alternatives from lifecycle, waste prevention and litter perspectives. As noted previously, states could consider restricting the free provision of such single-use alternatives (e.g., implementing a charge on paper carrier bags) as well as awareness raising and campaigns to tackle littering.

4.1.1.1 Biodegradable and compostable plastics

States could also consider introducing compostable plastic alternatives to many SUP products (especially carrier bags, food and beverage containers, cutlery and straws). However, this may

give rise to unintended consequences, especially without a clear understanding of the risks associated with these materials as detailed below.

RISKS:

In particular, the use of the term "biodegradable" is problematic, as this lacks meaning without further reference to the specific conditions in which the material can be expected to biodegrade. This lack of clarity means that consumers frequently interpret this as meaning that the product will degrade naturally in the environment, potentially justifying littering behaviours, even though in reality the products may not degrade in the natural environment. The marketing and use of products labelled as "biodegradable" as an alternative to SUPs should therefore be disallowed.
The use of "compostable" plastic alternatives is preferable, so long as products that claim to be compostable are required to meet the relevant standards for compostability, and these standards reflect existing waste management practices and universally available collection, sorting and treatment infrastructure in the country.

This is because compostable plastics are typically designed to disintegrate in industrial composting facilities, in specific temperature and pressure conditions, although even then full degradation may not necessarily occur. In locations where such facilities are absent, or where compostable alternatives are unlikely to end up in the appropriate facilities (e.g., due to a lack of a separate collection route), they are likely to end up in landfills, open burning or open dumps/littered. Compostable plastics are not designed to break down in the open environment, meaning this process will happen more slowly, leading to the same negative impacts as littering of conventional plastics.

It has been noted that introducing compostable plastic carrier bags while conventional plastic carrier bags are still available could lead to confusion for consumers, particularly around the correct management route for such alternatives. The incorrect disposal of compostable plastics can lead to contamination of both the plastic waste recycling stream and organic waste streams (if conventional plastic bags are mistaken for compostable ones and disposed of with organic waste). Contamination results in increased waste management costs due to the need for decontamination, or the rejection of recyclable/compostable materials due to low quality.[43]

While compostable plastics may therefore provide a valuable alternative to conventional plastics in terms of reduced fossil-fuel reliance, they are still designed to be single use and are not recyclable, meaning that they do not tackle many of the issues associated with SUPs in the environment.

4.1.2 Multiple-use alternatives

Given the risks associated with single-use non-plastic alternatives (including compostable plastics) described above, states should consider the potential for multiple use alternatives to

[43] http://www.cprac.org/en/news-archive/general/scp/rac-publishes-the-information-document-for-the-preparation-of-guidelines-to

SUPs as the preferred solution. These are often referred to as reusable products, and may be provided with either return systems (i.e., where the provider of the product retains ownership of the packaging and is responsible for cleaning and redistribution in between multiple consumers) as well as refill systems (where the consumer retains ownership of the packaging and can take it to the store to be refilled). The key advantage of reusable products is that they tend be littered less and are typically not disposed of after just one use. In the context of the SUP items to be tackled in the NPPWM, this could include the following:

Fabric carrier bags such as those made from jute (also known as hessian or burlap), cotton and hemp, bearing in mind that these may have a significant environmental footprint in production and incentives may need to be in place

a) to ensure they are used widely and consistently. As women are most likely to be involved in making locally made finished products, states should consider the economic opportunity which alternative fabric carrier bags may offer women.
b) Reusable heavyweight plastic carrier bags/woven plastic textile bags with a wall thickness ≥50 m- thick plastic carrier bags are considered reusable due to their higher durability compared to lightweight SUP carrier bags. However, states should bear in mind that littering of plastic carrier bags is a key concern which is unlikely to be addressed through heavyweight plastic carrier bags (see risks below).
c) Reusable plastic beverage bottles and cups,
d) Reusable aluminium/ glass beverage bottles,
e) Metal/ ceramic cutlery and crockery (i.e., washable items) for all eat/drink-in sales,
f) Reusable plastic or metal food containers (e.g. tiffin boxes),
g) Silicone or steel straws.

Risks/issues: States should be aware that multiple-use products are generally made to a higher quality and durability than single-use products. To prevent against greenwashing, this must be governed by strict standards to ensure that the product is genuinely reusable, and that a system to enable its reuse exists, so that it does not end up being single use in practice. The requirement for greater durability and quality usually increases the material footprint and therefore environmental impact and cost of manufacture associated with multiple-use products. Thus, the environmental performance of such products relative to SUPs improves the more times they are reused. There is a risk with alternatives like heavyweight plastic carrier bags that these are simply substituted for lightweight SUP carrier bags and are disposed of or littered after a single use. Thick plastic carrier bags increase consumption of plastic material and if heavyweight plastic bags are not reused enough times, then the intended environmental benefits will not be achieved.

Similarly with fabric bags, life cycle assessments show that they need to be reused numerous times to have a lower impact on the climate compared to SUP carrier bags. This is due to higher environmental impact in the production stage. The impact of manufacture varies according to the

fabric. Cotton for example generates higher greenhouse gas emissions in the production phase than plastic bags due to resource intensive growing and processing stages. The upfront cost of fabric bags may also be unaffordable for some people. Additionally, a shift to multi-use products/packaging usually involves a change in business models, notably to either:

I. consumer led refills which involve customers bringing their own containers/packaging or using a brand's refillable packaging in a store, at water fountains, in restaurants and hotels etc. With regards to water refills, this would require the implementation and expansion of potable water networks, both in public spaces and households. This also only targets SUP water bottles and sachets and would not reduce the use of SUP bottles for soft drinks.

II. industry-led return schemes which involve consumers returning empty packaging either in a store or at a drop-off point. The packaging is collected, cleaned and refilled by the retailer or producer. Such schemes therefore require infrastructure for the collection, cleaning and distribution of products.

Not only is significant consumer behaviour change required, but these new business models place additional requirements on retailers, which may be unfeasible in some cases, or too costly for consumers in others. A clear system of incentives and enforcement must therefore be in place to make these alternatives work as intended.

4.2 Measures to tackle SUPs

In addition to considering the necessity for and availability of alternatives to SUPs, designing and implementing a suite of measures to tackle SUPs requires consideration of which measure is most appropriate for each SUP item and how the measures can work together to simultaneously ensure single-use items are circulated, reduced or eliminated whist alternatives are also being incentivised.

4.2.1 Phased Ban

Figure 4-1: Summary of SUP suitability for bans

Suitable for bans
- lightweight carrier bags
- EPS food and beverage containers
- straws
- balloons and balloon sticks
- cotton bud sticks
- cutlery
- Other items on a voluntary basis (stirrers, caps and lids for beverage cups)

Unsuitable for bans
- Other food/ beverage containers
- Packets and wrappers
- Beverage bottles
- Tobacco product filters
- Fishing gear
- Water in sachets
- Wet wipes
- Nappies
- Other absorbent hygiene products (like sanitary and incontinence pads)

The NPPWM requires a phased ban on all items in Annex 1 from 2025, highlighting four items in particular - cutlery, plastic carrier bags, EPS (food and beverage containers) and straws. The policy also specifies that SUP carrier bags with below 30 m wall thickness and EPS (food and beverage containers) should have been effectively phased out by December 2028.

The NPPWM does not specify to whom such bans should apply i.e. whether it's a ban on the sale of items / purchase by consumers, or whether it applies across the value chain including bans on the manufacture, production, import and distribution of such items as well (for example, impacting producers, importers and distributors of SUP carrier bags in addition to retailers and/or consumers).

It is recommended that states seek further clarification from the Federal Ministry of Environment regarding the scope of this ban, in particular regarding to whom within the SUP product/packaging value chain the ban would apply, and which exact SUP items and types are included in the ban.

States may be able to ban the distribution/sale of SUP items in their territories but any bans on production and import would be meaningless without Federal implementation (as retailers would simply purchase them from other states in which the production of such items was not banned). A state level ban on production of items would also adversely affect the competitiveness of industry within that state, without any tangible benefit, since the SUP item would still be consumed. Bans on the distribution, sale and consumption of SUP items are therefore likely to be most effective at state/ LGA level, albeit imports of SUP items by individual consumers across state boundaries (where SUP bans are not consistently implemented) may still pose a risk.

Implementation considerations:

There is a difference between a total ban and phased bans. A total ban implies that a product as a whole, in all its applications, should be prohibited with immediate effect. This is not likely to be feasible for many items, based on their necessity, the availability of alternatives, and the risk of unintended consequences which may arise from a ban which could disproportionately affect certain groups of people. Banning certain items could have undesirable social, health or economic consequences which should be taken into account when determining the feasibility of a total ban.

However, states should also be aware that, while they may not always be able to entirely ban an SUP, they can restrict certain applications or behaviours which contribute to the littering of that product, and ramp this up over time. This constitutes a phased ban. For instance, states should consider the below variations of a phased ban for some of the SUP items in Annex 1:

- Banning the provision of SUP carrier bags less than 30μm thick at the point of sale of a

good or service in the short term, instead of banning all plastic bags with immediate effect. This is because lightweight carrier bags are most often found in litter, and finding alternatives for all plastic bags in all applications is likely to be very challenging.

    - Extending this phased ban to include SUP carrier bags over 30μm in thickness at some point in the future in order to reduce the use and littering of all SUP carrier bags.
    - Using a hybrid ban/fee model under which the provision of alternatives not covered by the ban should be subject to a charge (e.g., items/bags made from paper, biodegradable/compostable, bioplastic materials etc), the aim being to reduce waste and littering of all single-use items.
- A phased ban on SUP beverage cups and food containers (including those made of EPS), beverage cup lids, cutlery, stirrers and straws starting with those filled at the point of sale (i.e., takeaway containers). This is because the provisions of such items at takeaways often contributes to on-the-go litter, more so than when they are used in the home.
    - Alternatively, states could restrict these items from being provided unless the customer specifically requests them, or ban sellers from providing these items free of charge.
- Ban the use of plastic in certain items where it is not feasible to ban the whole item. This would be appropriate action for plastic cotton bud and balloon sticks (which could be made from paper/card materials instead.

- Restricting certain behaviours related to SUP items which lead to environmental harm, such as banning the intentional release of balloons into the air, which contributes significantly to litter from these items.

In addition to the items listed in Annex 1, states should consider the suitability of bans and phase outs for other SUP items on a voluntary basis, bearing in mind the likely impacts on markets and key stakeholders in their territories – these could include, for example, SUP covers and lids for beverage containers, and beverage stirrers.

However, there are several SUP items in the scope of this guideline, which are not suitable for a complete ban at present, and should be addressed with complementary actions such as charges, EPR or DRS, or improved waste management. These items are currently unsuitable for complete bans as alternatives that provide the same level of functionality are either not available or accessible and the items are considered necessary to maintain a certain quality of life.

For example, water sachets have a widespread use across a large proportion of the population and provide a clean, highly affordable supply of safe drinking water, given the lack of potable

water systems. In early 2024, despite recent price rises, it was reported that a sachet of pure water costs around N50, while bottled water sells for N200-300 per bottle.[45] They are also a key source of income and livelihood to a significant proportion of the population. Alternative products are not yet readily available on the Nigerian market, and require further funding and roll out, and therefore the ban of such items at this time could pose disproportionate negative hygiene or health implications. In the short term therefore, the emphasis should be on improving awareness and enforcement of anti-litter campaigns related to water sachets, increasing avenues for return and collection of such waste, and increasing charges for such items to reflect the costs of litter over time. An example for this is shown in Table 4.1 below. Items considered unsuitable for a ban at this time include:

- Packets and wrappers
- Beverage bottles
- Tobacco product filters
- Fishing gear
- Water in sachets
- Wet wipes
- Nappies
- Other absorbent hygiene products (like sanitary and incontinence pads)

Table 4.1: Example case study of water sachet collection pilot, Nigeria

Overview	In 2020, Dow launched a pilot programme, ReflexNG, based in Lagos to enable the collection, reuse or recycling of one million metric tonnes of plastic globally by 2030, by diverting 600 Mt of water sachets from landfill (approx. 300 million sachets). The pilot ran until February 2021.[48]
System	The water sachets were collected by RecyclePoints, a Nigerian waste social enterprise that uses kiosks, an app and waste pickers to collect sachets for recycling. Kiosks act as a bring-bank where community members can exchange waste for groceries, phone credits, cash and more. After collection, the waste is transported to Omnik where it undergoes processing into post-consumer recyclate.

Scaling up of pilots such as these can help Nigeria to achieve high collection rates of water sachets by utilising social enterprises.

[45] https://punchng.com/soaring-sachet-water-prices-push-nigerians-to-unhealthy-options/#:~:text=According%20to%20Sanni%2C%20those%20who,sachet%20is%20sold%20at%20N50.
[48] https://www.packagingstrategies.com/articles/95812-water-sachet-packaging-found-a-recycle-source-in-west-african-countryhttps://www.packagingstrategies.com/articles/95812-water-sachet-packaging-found-a-recycle-source-in-west-african-country

Additionally, when implementing bans, exemptions for SUP products used in certain contexts (for hygiene or medical purposes) could be provided for in consultation with the Federal Ministry. In addition, States could consider, in discussion with the Federal Ministry of Environment, exemptions on the ban for small retailers (they would still be subject to the charge however). A lower threshold of retailer size would need to be considered, and could be based on turnover, physical retail space or number of employees. This would limit the amount of enforcement activity that may initially be needed (focussed only on larger retailers/ brands) and could be reviewed over time to ensure that the ban is effective. See Table 4.2 below for an example of where exemptions have been utilised in New York for single-use foam containers.

Table 4.2: New York City single-use foam container ban

Overview

In 2015, single use expanded polystyrene containers were banned in New York City. In the subsequent years the ban was overturned and then reinstated in 2017. As of January 2019, stores, food service establishments and mobile food providers in New York City can no longer possess or sell single-use foam food containers e.g., takeaway clamshells, cups, plates, bowls and trays. Manufacturers, distributors and stores may also no longer sell or offer loose fill foam packaging.

Exemptions include:

- foam containers used for pre-packaged food that have been filled and sealed prior to receipt by the food service establishment, mobile food commissary, or store.
- Foam containers used to store raw meat, pork, fish, seafood or poultry, including eggs, sold from a butcher or similar.
- Foam blocks used as protective packaging in shipping.

Fines for violation of the law increase according to the number of offences: $150 for the first offense, $250 for the second offense and $500 for the third and subsequent offenses.

Relevant establishments may also receive annual inspections from state agencies.[47]

[47] https://www.nyc.gov/assets/dsny/site/resources/recycling-and-garbage-laws/collection-setout-laws-for-business/foam-ban

States should also be aware that bans require strict enforcement and implementation in order to be effective. As such, states should consider appropriate penalties (e.g., fines) and enforcement measures to ensure bans are effective, as well as how these enforcement activities will be funded. Given the noted challenge of funding enforcement, hypothecation of revenues from fines could be considered.

Finally, States should consider possible options for phasing the bans such as:

- By type of item e.g., first products such as SUP straws, stirrers, cotton bud sticks, followed by SUP cutlery and expanded polystyrene beverage cups and food containers. For SUP carrier bags, the ban could be phased according to thickness. Some countries in Europe for instance, have defined different categories of SUP carrier bags according to thickness i.e., heavy weight, lightweight and very lightweight and have phased bans and charges accordingly.

- According to consumption reduction targets i.e., phasing the ban on SUP carrier bags so as to achieve 50% consumption reduction by 2030.

- According to application or type of provision e.g., first banning the provision of SUP straws/cutlery over-the-counter followed by an extension of the ban to all sales of SUP straws/cutlery.

- Or by type of retailer i.e., very large retailers would be subject to the ban first, then medium sized retailers, then small retailers if not exempt.

Timeline:

To implement a phased ban, states could first implement the charges on SUP items and then phase in the ban until full effect (2028 for SUP carrier bags and EPS containers). States should consider allowing a six to 12month grace period after the ban comes into full effect before enforcement penalties can take place. This would allow retailers and consumers time to adapt to the ban and to offload existing stocks of items without undue loss.

Risks:

There are several risks associated with a ban on SUP items, many of which are related to the implementation of such a measure. In all cases, the effects of a ban must be closely monitored and enforced, to maximise impacts but also to review and adapt policies if necessary.

- The primary risk is that the SUP items which are banned are simply substituted with a variety of other types of plastic and non-plastic items not subject to the ban, which are either as harmful, or potentially even more harmful to the environment than the SUP item

itself (see more detail on risks of alternative materials in Section 4.1). Adopting a hybrid ban/fee model- in which certain SUP items are banned while all other single-use alternatives are subject to a charge- can help reduce this risk. This was done in Rwanda as can be seen in Table 4.3 below, where paper bags were the primary alternative used in place of a plastic bag ban.

Table 4.3: Example: plastic bag ban in Rwanda

Overview	Plastic bag ban 2008, amended in 2019: the regulation bans the production, import, use and sale of all polyethylene bags. The law exempts compostable plastic items or woven polypropylene. Enforcement includes jail terms for those smuggling plastic bags and government inspectors conducting spot checks on stores and manufacturers. Tax incentives were provided for companies willing to invest in manufacturing alternative, environmentally friendly bags or plastic recycling equipment.
Impacts	✓ Paper bags are the primary alternative, although consumers have also started using cotton bags.[48] ✓ In 2008, Kigali was nominated by UN Habitat as the cleanest city in Africa. ☒ Lack of good and cheap alternatives, especially for the poorest in the country. ☒ Smuggling of plastic carrier bags from neighbouring countries remains an issue. ☒ Rwanda's manufacturing sector has criticised the ban, both for the suddenness and strictness of its implementation and for the lack of government subsidies/support for the production of alternatives. ☒ As a result of the first ban on plastics in 2005, and the subsequent ban on plastic bags in 2008, two companies invested in the local production of paper bags. Key challenges, however, include competing with imported paper bags and smuggled plastic bags, which are sold at much cheaper prices.[49]

[48] UNEP (2018) Single-use plastics: A roadmap for sustainability. Available at https://www.unep.org/resources/report/single-use-plastics-roadmap-sustainability
[49] Behuria P (2019) The comparative political economy of plastic bag bans in East Africa: Why implementation has varied in Rwanda, Kenya and Uganda. GDI Working Paper 2019-037. Manchester: The University of Manchester.

- Lack of cheap, viable alternatives could disproportionately impact the poorest in society.
- Retailers or entrepreneurs making profit through the illegal, unethical or black-market sale of SUP items with unsubstantiated environmental claims (profiteering).
- Smuggling of SUP items from countries without bans, as has been reported in Cameroon, Rwanda, Kenya and Zimbabwe as a result of plastic bag bans.[50] States should ensure that sustainable alternatives to SUP items are readily available and affordable before a ban comes into effect.
- Non-compliance by retailers or weak enforcement meaning retailers continue providing SUP carrier bags to customers. This can be addressed through introducing penalties for those that do not comply with the bans. This was done in Tanzania as outlined in Table 4.4 below.

Table 4.4: Example: Tanzania plastic carrier bag ban

Overview	Prohibition of plastic carrier bags regulations 2019: restricts the production, import, export, sale, supply, storage and use of plastic carrier bags (regardless of thickness). [51] The regulation also seeks to promote the production and use of alternative carrier bags and requires local government authorities to conduct public awareness and education programmes on the ban. Penalties for breaching the regulation include a range of fines, from 100,000 shillings, (approx. US$40) for the sale of plastic bags, up to a maximum of one billion shillings (approx. US$400,000) for the manufacturing or importation of plastic bags. Penalties can also include a term of imprisonment.[52]

- Disruption to manufacturing and industry lobbying against the ban or circumventing the ban e.g. in Kenya, business lobbying postponed the plastic bag ban over five times. Comprehensive stakeholder engagement and government subsidies/support for producing alternatives can reduce these risks.

[50] Muposhi A, Mpinganjira M, Wait M. Considerations, benefits and unintended consequences of banning plastic shopping bags for environmental sustainability: A systematic literature review. Waste Management & Research. 2022;40(3):248-261. doi:10.1177/0734242X211003965
[51] https://leap.unep.org/countries/case-studies/africa-region-plastic-pollution-and-marine-litter-law-and-policy
[52] UNEP (2020) TACKLING PLASTIC POLLUTION: Legislative Guide for the Regulation of Single-Use Plastic Products. Available at https://www.unep.org/resources/toolkits-manuals-and-guides/tackling-plastic-pollution-legislative-guide-regulation

- Stockpiling of SUPs before a ban comes into effect.
- Potential hygiene implications of reusables. This risk can be addressed through extensive awareness raising to ensure consumers are prepared for the measures and able to make best, and safe, use of reusables.

4.2.2 Consumer Facing Charges

Figure 4-2: Summary of SUP suitability for consumer-facing charges

Suitable for charges	Unsuitable for charges
- Carrier bags - Other food and beverage containers (non-EPS) - Straws - Cutlery - Other items on a voluntary basis (e.g., stirrers)	- Cotton bud sticks - Balloons and balloon sticks - Packets and wrappers - Beverage bottles - Tobacco product filters - Fishing gear - Water in sachets - Wet wipes - Nappies - Other absorbent hygiene products (like sanitary and incontinence pads)

The NPPWM requires the introduction of economic measures, (such as taxes, levies and charges) on all on-the-go SUPs as listed in Annex 1 of the policy. These could take the form of consumer charges, levied at the point of sale of goods to encourage behaviour change, for example a charge on single-use plastic takeaway coffee cups to influence consumers to bring their own reusable alternatives to avoid paying for the single-use item. However, this could also take the form of levies on retailers or taxes on producers who manufacture and supply single-use items.

It is recommended that economic measures at a State or Local Government level take the form of consumer facing charges, to avoid significant market distortions that would arise if producers and retailers faced different tax requirements and levies in different states. Taxes and levies would therefore be better implemented at the Federal level.

Consumer charges are also likely to be more impactful than a producer tax or retailer levy. This is because the efficacy of the other two options is dependent on the ability of producers or retailers to absorb the tax/levy instead of switching to reusable alternatives, which may be viewed as more costly. In these cases, taxes are not likely to be passed onto the consumer, thus having no impact on SUP consumption or litter reduction.

Consumer facing charges are much more likely to encourage a behaviour change. When charges are high enough, they have a strong influence on consumer behaviour and create an incentive to switch to more environmentally friendly options. Depending on how they are designed and ringfenced, charges can also present an opportunity to raise public funds, which can help to finance plastic waste minimisation activities. This is an option for states to consider. The NPPWM specifically requires a 5% charge on all single-use plastic grocery bags by 2022. However, the basis for this charge is not clear (see implementation considerations below). With regards to consumer charges for other SUP items in Annex 1, State and Local Governments could consider consumer charges for the following SUP items:

- Beverage cups filled at the point of sale made from other (non-EPS) plastic material
- Food containers filled at the point of sale (i.e., takeaway) made from other (non-EPS) plastic material
- Straws
- Stirrers

As described in Section 4.2.1 above, states should consider banning EPS food and drinks containers, straws, stirrers and cutlery would likely be more effective than consumer facing charges in encouraging the switch to reusable alternatives, as alternatives are widely available, and these items are not necessities. Conversely, banning all plastic beverage cups and takeaway containers (other than EPS) is not likely to be straightforward in all circumstances in the short run, and hence a consumer facing charge to encourage a gradual phase-out of these items would be more suitable.

For any items that charges are applicable to, it is recommended that there is coordination between states in order to set appropriate and harmonised charges across the country. This will help mitigate the risk of consumers opting to buy cheaper SUP items from neighbouring states, and other such market distortions.

Items that may not be suitable for consumer charges include those that are not usually provided free of charge at the point of sale of goods or services (i.e., for use on-site). For example, tobacco products have a very inelastic demand and minimal price increases are not likely to significantly impact consumption. Here, extended producer responsibility is likely to be a more effective mechanism to cover the costs of incorrect disposal and littering of tobacco products. Consumer charges are not likely to be the most effective measure for the following SUP items:

- Balloons and balloon sticks
- Cotton bud sticks
- Tobacco products and filters
- Fishing gear

Implementation considerations:

Before establishing charges on SUPs, states should coordinate with neighbouring states to try to set charges as consistently as possible. States should also seek clarity from the Federal Ministry of Environment on the below:

a. The level of charge and the structure this should take on, considering the following points:
   i. A charge should be high enough to encourage behaviour change but consider the purchasing power of a community. For example, in South Africa (see Table 4.5 below) the charge was set too low and was subsequently absorbed by consumers after an initial successful period.

   ii. The basis on which this should be calculated. The NPPWM suggests a 5% charge on SUP carrier bags but does not clarify how this is calculated. For example, if the charge is based upon 5% of the cost of the bag, this may vary according to retailer or be too low to encourage a behaviour change. If the charge is based upon 5% of the total customer bill, this may be too high depending on the products the consumer is purchasing.

1. A flat charge per bag is likely to be the most appropriate solution here, to ensure that there is clarity for consumers on what the additional costs of using SUP bags will be.
   b. It is advised that the states also discuss possible exemptions with the Federal Ministry of Environment in order to ensure that health and safety is not compromised. For example, when lightweight plastic bags are used for meat or fish, or straws are used for medical purposes or by people with disabilities, reductions or exemptions from charges should be applied. Exploring the need for any such exemptions at the Federal level will also ensure consistency across the states.

2. State and Local Governments should also require retailers to make reusable alternatives available alongside SUPs that are being charged for, and to encourage consumers to reuse them as much as possible. This ensures that there is a clear and accessible alternative to paying any charges, without which it becomes a tax.
   a. When making provisions for alternatives to SUPs, states should avoid providing alternatives that are single use themselves (e.g. paper bags, or compostable plastic bags instead of plastic bags), in order to reduce littering.

3. State governments should consider how the revenue from any SUP charges should be allocated and used.

a. They could either require that all, or a portion, of the charge is remitted to government – and if so, what the funds should be ringfenced for (enforcement activities, subsidising reusables, etc.).

b. Alternatively, they could allow the retailers to retain all or part of the charge, placing no restrictions on how retailers spend the revenue, or requiring retailers to use this for environmental causes or other plastic waste reduction activities. Cyprus for instance, reports that with a charge of €0.05 (+ VAT) for lightweight and very lightweight plastic carrier bags, most retailers use the revenue for producing re-usable bags to distribute to consumers, or campaigning for a reduction in SUP carrier bag consumption.[53]

c. State governments should bear in mind that revenue from such a charge could be used to support litter clean-up and recycling activities in the short term, though in the long term this should be funded through EPR (see Section 4.2.3) and should therefore not be necessary.

4. States should also consider how any SUP charges should be implemented together with retailers (who will be responsible for administering the charge to consumers). For example, with regards to SUP carrier bags:
   a. States could set a charge which is above the 5% required in the NPPWM.
   b. States could set a 5% charge as the minimum but give retailers the flexibility to set a higher charge.

5. States could increase the charge on SUP items after the first year of implementation until the relevant bans come into full effect. Ireland for instance, prohibited the free provision of lightweight plastic carrier bags in 2002 with a charge of €0.15 raising it to €0.22 in 2007. Whether the charge should increase or not would depend on the effectiveness of the initial charge, which would need to be determined through retailer reporting and data collection on the number of SUP items being consumed. Indeed, if a charge is set high enough, it can often have nearly the same impact as a ban, with arguably lower enforcement costs and greater benefits in terms of raising funds for other environmentally beneficial activities (albeit this benefit will be realised mainly during the initial stages of implementation until consumption levels – and therefore revenue from the charges – reduce significantly).

European Commission, Directorate-General for Environment, Sherrington, C., Watson, S., Marsh, P., et al., Scoping study to assess the feasibility of further EU measures on waste prevention and implementation of the Plastic Bags Directive Part II, Implementation of Plastic Bags Directive, Publications Office of the European Union, 2022.

Timeline:

States should consider implementing phased charges on SUP items and carrier bags before implementing a full ban. States could review the effectiveness of the charge after one year and if consumption levels are still high, increase the level of the charge until the SUP bans come into full effect (namely, 2028 for SUP carrier bags and EPS food and drink containers). Note that in the future, SUP charges can also be implemented alongside bans to maximise environmental impacts (e.g., lightweight SUP carrier bags (those below 30 microns in thickness) may be banned, alongside a charge on plastic bags that are above 30 microns in thickness to prevent lightweight plastic bag litter from simply being replaced by heavier plastic bag litter).

Risks:

- Producers and importers of SUP items will be negatively affected by consumption reduction measures (i.e., charges and bans). The extent to which producers/importers are impacted will depend on the size of their business and the proportion of their revenue which is from the sale of SUP items, their flexibility to adapt and ability to manufacture the same bags using different materials. If demand for SUP items falls as intended, producers of reusable alternatives should see a rise in demand.

- If charges are not set at a high enough level, consumers will simply absorb the cost and continue to use and discard SUP items, as was the case in South Africa (see Table 4.5).
- Without adequate enforcement, retailers could resist the charge and continue providing free SUP items to customers.

- Industry players could lobby against the charge which could delay or prevent policy implementation.

- As women typically earn less than men and generally use their income for household spending, such as food, states and local governments should consider the disproportionate impact which consumer charges may have on women.[54]

[54] Central Bank of Nigeria (2019) ASSESSMENT OF WOMEN'S FINANCIAL INCLUSION IN NIGERIA. Available at: https://www.cbn.gov.ng/out/2020/dfd/assessment%20of%20womens%20financial%20inclusion%20-%20exec%20summary.pdf

Table 4.5: Example: ban and levy on carrier bags in South Africa

Overview	Ban on SUP bags less than 30µm introduced in 2003. This was combined with a ZAR 0.04 levy on retailers on 24 litre bags (roughly $0.04). After three months the levy was reduced to ZAR 0.03 due in part to pressure from producers. A non-profit company was set up from the revenues of the levy with the purpose of promoting waste minimisation and recycling as well as awareness raising.
Impacts	- Despite an initial success in changing consumer behaviour, this effect reduced over time. Consumers absorbed the price and started using SUP bags again. This implies that the levy was set too low while there was also found to be a lack of viable alternatives and no awareness raising.[55] - The levy affected the food sector but excluded other industries like clothing retailers who still gave out free SUP bags. - Disproportionately impacted the poorest in the country who use plastic bags as a cheap means to transport goods over long distances. - In 2009, only 13% of the revenues collected reached the non-profit company.[56]

4.2.3 Extended Producer Responsibility (EPR)

Firstly, there is a need to establish the definition of EPR that will be used for these guidelines. The NPPWM defines EPR as 'an environmental protection strategy with the objective of decreasing total environmental impact from a product including its packaging, by making the producers of the product responsible for the entire lifecycle of the product, and, the take back, recycling and final disposal of the product including its packaging.'

The draft of the National Environmental (Plastic Waste Control) Regulations, 2023[57] defines EPR as an 'environmental policy approach in which a producer's responsibility for a product

[55]UNEP (2020) TACKLING PLASTIC POLLUTION: Legislative Guide for the Regulation of Single-Use Plastic Products. Available at https://www.unep.org/resources/toolkits-manuals-and-guides/tackling-plastic-pollution-legislative-guide-regulation
[56]UNEP (2018) Single-use plastics: A roadmap for sustainability. Available at https://www.unep.org/resources/report/single-use-plastics-roadmap-sustainability
[57]Unpublished at the time of writing

is extended to the waste stage of that product's life-cycle. It entails producers taking responsibility for the management of products after becoming waste, including: collection; pre-treatment, e.g. sorting, dismantling or depollution; (preparation for) reuse; - (including recycling and energy) or final disposal'.

In UNEP's legislative guide on tackling plastic pollution, EPR is defined as a policy principle which extends the responsibilities of manufacturers of products to various parts of the entire lifecycle of the product in order to promote total life-cycle environmental improvements. The focus of EPR is on the take-back, recycling and disposal of products in particular. [58][59]

EU Directive 2008/98/EC on waste and repealing certain Directives as amended in 2018, defines EPR as 'a set of measures taken by Member States to ensure that producers of products bear financial responsibility or financial and organisational responsibility for the management of the waste stage of a product's life cycle.'[60]

For the purpose of this guidance, we will use the definition of EPR as set out in the NPPWM, which is largely mirrored by that in the upcoming Plastic Waste Control Regulations and aligned with international definitions as provided above. As further explanation:

- An extended producer responsibility policy requires producers to bear the responsibility for their products when they become waste. This is the focus of all the definitions above.
    - This includes activities such as take back, recycling and final disposal of wastes. It is worth noting that the draft of the Plastic Waste Control Regulations includes more detail on the specific activities this includes.
    - EPR aligns with the polluter pays principle, in that those who produce products or packaging are responsible for the costs of end-of-life management. It is worth noting that the definition in the EU waste Directive specifies what this responsibility entails - financial responsibility as a minimum, and potentially organisational responsibility for management of wastes as well.
    - In line with the UNEP definition, the NPPWM definition sets the overall objective of “decreasing total environmental impact from a product”. However, States should be aware that EPR is not a consumption reduction measure. Instead, EPR is about making producers responsible for (including

[58]Lindhqvist, T (2000) Extended Producer Responsibility in Cleaner Production: Policy Principle to Promote Environmental Improvements of Product Systems, PhD, The International Institute for Industrial Environmental Economics, Lund University.
[59]UNEP (2020) TACKLING PLASTIC POLLUTION: Legislative Guide for the Regulation of Single-Use Plastic Products. Available at https://www.unep.org/resources/toolkits-manuals-and-guides/tackling-plastic-pollution-legislative-guide-regulation
[60]https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02008L0098-20180705

covering the costs associated with) the products they place on the market throughout their whole lifecycles (including at the end of life). This also provides an incentive for producers to improve the design of their packaging to make it more compatible with less environmentally harmful forms of waste management over time.

The NPPWM required mandatory sector user charges under EPR for all SUPs from May 2021. The following considerations should be made at Federal level if an effective EPR system is to be implemented:

- It is recommended that EPR be implemented at a Federal level to ensure a consistent approach for producers across Nigeria. A harmonised approach is important as packaging and packaged products are certain to cross state boundaries.

- It is recommended that a nation-wide EPR policy should cover all packaging types (not just plastic). This creates more efficiencies in waste collection and ensures that the fixed costs set by an EPR scheme are shared over a greater scope of materials.

- Further guidance on the scope, objectives, and principles of EPR in Nigeria's context should be made available through subsequent regulations at Federal level, on the basis of which minimum requirements for EPR implementation, and guidelines for implementation can be issued.

- A separate study was commissioned in 2023 to provide guidelines on the implementation of EPR for plastic packaging in Nigeria[61] – these guidelines should be formalised and made publicly available and accessible as soon as possible, alongside the Plastic Waste Control Regulations that include proposals for EPR provisions for plastics beyond packaging and SUPs in scope of the NPPWM (such as toys and other household items alongside agricultural plastics and plastic construction material).

A Federal EPR scheme for plastic packaging would include several of the items in scope of this guideline, such as food containers, water sachets, etc. as shown in Figure 4-3 below.

Other SUP items that may be suited to Federal EPR schemes in the future are also listed. Of these, tobacco filters and fishing gear have been identified for EPR in the NPPWM, though no evidence has been found at present of the development of EPR schemes for these items in Nigeria. Items like wet wipes, nappies and sanitary items may also be suited to EPR, in order to make producers responsible for the costs associated with managing wastes (including

[61] https://landbell-group.com/news/mission-accomplished-2/

sewerage etc. when wrongly flushed), thereby encouraging to improve the design of their products. Such items tend to be collected separately as waste, and assigning costs would be feasible. However, this should be considered carefully, as any increase in product costs as a result of EPR would likely be passed on to consumers, with negative social and cultural implications.

Items like straws, cotton bud sticks, cutlery and beverage stirrers are not recommended for EPR measures, as they would be difficult to trace in the waste stream (in order to assign the relevant costs of waste management appropriately to producers), and challenging to recycle without prohibitive costs. Charges and bans on such items are likely to be more suitable.

Figure 4-3: Scope of SUP products that are potentially suitable for EPR

Included in Federal EPR on plastic packaging	Other SUPs suited to federal EPR in future	Not suitable for EPR
• Food containers • Beverage cups • Packets and wrappers • Beverage containers • Water sachets • Carrier bags • Wrappers/ storage bags • Covers/ lids for beverage cups	• Tobacco products filters • Fishing gear • Wet wipes • Nappies • Sanitary products (and other AHPs)	• Straws • Cotton bud sticks • Balloons and balloon sticks • Cutlery • Beverage stirrers

The following considerations should be made at state level, particularly in the absence of current guidance set at the Federal level.

If an EPR scheme for plastic packaging is implemented at Federal level, the role of State Governments will likely be limited, with a focus on provision of infrastructure and support services in their territories, including monitoring, awareness raising and reporting on waste management performance (collections and treatment routes). Local Governments similarly will play a key role in enabling waste collections and awareness raising to support the EPR scheme's performance. State Government goals should be aligned with those of the EPR scheme and effective services should be provided to ensure that the scheme is cost efficient. There may also be opportunities for valuable data sharing between the EPR scheme and the State Governments if a central registry is established – for example, States may request additional details regarding specific SUP packaging placed on the market by producers to be reported within the EPR scheme in order to support monitoring and enforcement of

measures such as bans and charges on such items. Ideally, these requirements would be harmonised nationally to minimise burden on industry stakeholders who might otherwise have to report the same data in a range of different ways to meet differing state requirements. To support with consistent implementation and monitoring activities, States should ensure that the following key principles underpin a Federal EPR scheme:

- A clearly defined product scope (e.g., EPR for packaging of all materials used in all sectors).

- A clear definition of producers to ensure the appropriate organisations are obligated under the policy.

- The scope of waste management costs to be covered by the scheme is made clear to producers, e.g., operational costs such as separate collection, transport and treatment of waste, and costs of supporting services such as information provision/public communication (see Section 4.3.5), enforcement and data collection. The scope could also be expanded to include the costs of managing litter or treating SUPs which end up in mixed waste streams (i.e., full cost coverage).

- Clarity to State and Local Governments on the necessary evidence required for them to benefit from the transfer of these costs under the EPR scheme – this may necessitate new requirements around waste tracking, waste management cost and revenue transparency, etc.

- State and Local Governments should be involved in determining appropriate performance targets for the EPR scheme, including separate collection targets, collection coverage and collection standards. Separate collection targets should be set in a stepwise manner, increasing over time, based on existing knowledge.

- Where State and Local Governments are currently responsible for the procurement and licensing of waste services (collections, contracts with sorters/ reprocessors), it will be important to understand how the PRO will be involved in such organisational processes moving forward. Where State and Local Governments themselves are carrying out waste operations, it will be important to understand whether EPR will result in a shift of such operational responsibilities (to the PRO), or whether in future such activities will be undertaken through PRO contracts, and how these will be structured.

- To facilitate the above, it is recommended that one not-for-profit EPR scheme be established (with one producer responsibility organisation (PRO) at a state or Federal

level rather than having multiple competing PROs. A single PRO is easier to regulate, can guide strategic investment in infrastructure, ensures data collection is consolidated and can be more transparent in terms of fees.

- Any other responsibilities of State and Local Governments to support the enforcement of producer obligations and actions to tackle free-riding.

Timeline: The NPPWM mandated sector user charges under an EPR scheme from May 2021. An EPR scheme can be developed and implemented independent of the consumption reduction measures formerly outlined. The timeline for implementing EPR should be developed in discussion with the Federal Ministry of Environment and through coordination between states to ensure a consistent approach.

4.2.4 Deposit Refund System (DRS)

The NPPWM states that the Federal Ministry of Environment will introduce by law a nationwide bottle deposit requirement by December 2021 with a 5% deposit on beverage containers. However, this has not been implemented to date and no further details on the scope or definition for a deposit refund system (DRS) has been provided. This guidance will use the following definition for a deposit refund scheme:

A DRS for beverage containers is defined as a system under which a small, refundable deposit is applied to a beverage container to incentivise consumers to return the container to either be recycled in a one-way system or reused in a refillable system. The deposit is not a tax or a charge. The deposit fee applies at the point of purchase by the consumer and is refunded when the purchaser returns the container to a certain collection point.

DRS is a well understood approach which has been applied to beverage containers because such products are more likely to be consumed outside of the household and discarded as litter, are often quickly consumed, there are large volumes placed on the market and they can be cleaned and recycled relatively easily. It is important that when determining the appropriate level of the deposit, it is set high enough to incentivise compliance with the objectives of the scheme - a deposit set too low will have less of an effect on consumer behaviour and fail to discourage littering or improper disposal.

As noted above, the NPPWM requires a 5% deposit refund system for beverage containers. States should seek further clarity from the Federal Ministry of Environment on this policy goal, and any impacts it may have on state/ LGA waste management systems and responsibilities. In the absence of guidance at Federal level, states should encourage the Federal Ministry to develop a national scheme as DRS is not appropriate for implementation at state level.

Regardless, it can result in numerous benefits such as litter prevention, and improved quantities and qualities of recyclable materials becoming available. When engaging with the Federal government, states should make the following considerations:

- For the design, implementation and operation of a high-performing DRS, states should be aware of the following key principles:
  I. A high return rate, with appropriate incentives /penalties to ensure this is achieved.
  II. Organised by a single, centralised system operator. This should be industry-owned and not-for-profit to align with the principles of producer responsibility.
  III. Consumers should be able to access a convenient return network.
  IV. An appropriate deposit value, calculated to incentivise consumers to return used containers while balancing impact on cash flow and fraud risk.

- Consumers typically return empty containers via a reverse vending machine (RVM) or by manual take-back, but consideration should be given as to which infrastructure is most appropriate/feasible in the Nigerian context.

- States should consider the impact which a DRS may have on the pre-existing informal waste sector which is already collecting and generating value from PET bottles. As women make up a significant proportion of informal waste pickers, sorters and collectors of recyclables, a DRS may have specific gendered impacts which states should seek to mitigate.[62]

Timeline: a DRS can take several years to plan, design and implement. Enough time should be given for the planning and design phases in order to ensure a successfully functioning scheme. DRS should not be implemented a state level as this is likely to cause significant market distortions. States should encourage and support the Federal Ministry in implementing a nationwide DRS for beverage containers alongside wider EPR measures.

4.2.5 Awareness Raising

The NPPWM requires awareness raising to discourage littering, promote beach clean ups and shift consumer habits. The NPPWM does not specify who awareness raising campaigns are targeting. States should consider engaging with all stakeholder groups that will be affected by new policies on SUP items. Presenting a strong, evidence-based case for interventions can help ensure success and reduce opposition.

[62] Muhammad, MN., and Manu, HI,. (2013) Gender roles in informal solid waste management in cities of Northern Nigeria: A case study of kaduna Metropolis. Available at: http://www.savap.org.pk/journals/ARInt./Vol.4(5)/2013(4.5-16).pdf

Key stakeholders that states could engage with include:

- All relevant waste management authorities at the state level,
- Local waste management authorities,
- Trade and industry associations,
- SUP carrier bag producers,
- Retailers,
- Citizens and organised civil society groups (community groups),
- Environmental NGOs,
- Tourism associations/bodies.

States should consider a range of awareness raising methods, including:

- Workshops and educational programmes in schools,
- Multi-media campaigns e.g. local TV, radio, newspapers and social media. According to a survey of 1,985 residents in Lagos, 79% of respondents indicated that they receive information better from the TV/radio/newspaper.[63]
- Development of information material for various stakeholders. For instance, this could include a website established by the relevant state level authority outlining the reasons for restricting consumption of SUP items. The website could also provide engagement materials for retailers such as flyers and posters.
- States could implement a voluntary agreement for retailers to provide public information on the negative environmental impacts of SUP items and possible alternatives for consumers.
- Door-to-door campaigns or campaigns in public spaces.

Timeline: awareness raising measures should begin before the implementation of consumer charges and bans and continue throughout the duration of proposed actions.

[63] UNIDO (2021) Study on Plastics Value Chain in Nigeria. Available at https://www.unido.org/sites/default/files/files/2022-01/Plastic_value_chain_in_nigeria.pdf

Table 4.6: Example: awareness raising in Antigua and Barbuda

Overview

In 2016, Antigua and Barbuda banned the import, manufacturing, trading and distribution of plastic shopping bags. Major supermarkets were subject to the ban first, before being extended to smaller shops. One year after implementation, a preliminary assessment indicated a 15% reduction in the amount of plastic discarded in landfills.[64] It is unclear what types of plastic this figure refers to.

Awareness raising

- Prior to implementing the ban, a number of Government ministries conducted four rounds of stakeholder consultation with retailers and producers on how best to implement the ban, potential challenges and solutions. This helped to build buy-in.
- The Government conducted media campaigns before, during and after the ban. The campaign was titled 'I'm making a difference one bag at a time'. Prior to implementation, the Minister of Health and Environment explained the ban and consultation process on TV and a jingle was created to promote the use of reusable bags.
- The Government launched a competition for schools to design the campaign logo.
- During the week in which the ban came into force, Government officials held public events where they explained the scope of the ban and the negative environmental impacts of plastic pollution.
- During the weekend which the ban entered into force, shoppers were provided with free reusable bags from the Government outside supermarkets and encouraged to sign a pledge 'to make a difference, one bag at a time'.

Training

- The government also launched an initiative to teach seamstresses and tailors to manufacture reusable bags to meet rising demand.[65]

[64] UNEP (2018) Single-use plastics: A roadmap for sustainability. Available at https://www.unep.org/resources/report/single-use-plastics-roadmap-sustainability
[65] UNEP (2020) TACKLING PLASTIC POLLUTION: Legislative Guide for the Regulation of Single-Use Plastic Products. Available at https://www.unep.org/resources/toolkits-manuals-and-guides/tackling-plastic-pollution-legislative-guide-regulation

4.2.6 Green Public Procurement

Green public procurement (GPP) is a process whereby public bodies use their purchasing power to choose goods, services and works with reduced environmental impact when taking into account their whole life cycle.[66] Often the perception is that environmentally sustainable products may be more expensive than conventional ones. Additionally, public officials often lack the technical knowledge on integrating green standards into the procurement process from the bottom up, rather than being an afterthought.

It is important to note that, while the scope of these guidelines is specifically related to how GPP can help to reduce the reliance on SUPs, GPP has many other elements which can be utilised to improve sustainable practices. The NPPWM requires states and local governments to promote GPP that supports environmental sustainability, but it doesn't give any further detail on how this should be done, or with which specific objectives in mind.

Despite this, states could consider adopting the following types of measures to promote GPP for SUPs:

- State and Local Governments should consider developing respective GPP policies in order to 'lead by example' in reducing the consumption of SUPs and promoting reusables across their operations and portfolios. This could include using crockery and metal cutlery which can be washed and reused at conferences and events.

- Paying particular attention to planning and permitting of events which the state has responsibility for to reduce the reliance on SUPs. Examples below are included:
    - Issuance of re-usable cups or water fountains at public events rather than SUP water bottles. This was done in Slovakia as is outlined in Table 4.7 below.

    - Ban of disposable SUPs at these events such as cups, straws, cutlery, plates. A dedicated area for reusable items (potentially with a deposit attached to ensure return after use by customers). Such models have been applied to beverage cups at markets, festivals and other public events in the UK, for example.[67]

    - Waste managers at large events and in spaces to inform pickers about waste separation such that recyclables can be collected separately from non-recyclables.

[66] https://www.oecd.org/gov/public-procurement/green/
[67] https://www.refill.org.uk/refill-guide-for-events/case-studies/

- Similar approaches to the above can be taken for buildings and spaces for which the State and Local Governments holds responsibility. Consideration must be given to avoiding SUPs whenever possible, and this should be reflected within planning procurement procedures and sourcing processes (including when defining requirements, during evaluation/ acquisition/ award and as a part of ongoing maintenance and operation of assets). Requirements should not only extend to the relevant Department itself, but also to the Departments' employees and service providers. While it may not be feasible to remove SUPs from all applications, local and state governments should ensure that due diligence has been exercised while seeking alternatives prior to making a purchase. . This can be extended to other state-owned spaces such as national parks, stadiums, leisure centres, etc.

- This can often give a significant boost to industries that are developing sustainable alternatives to plastics, but do not yet have the economies of scale to make them competitive with conventional alternatives, since the public sector often represents large procurement contracts for suppliers.
- An important characteristic of effective GP policy is regular monitoring of the results of GPP and allowing these to provide a feedback loop into the revision of State and Local Government GPP policies to target areas where SUP use and waste can be minimised further.

Table 4.7: Example: approach to tackle single-use plastic at public events, Slovakia

Overview	In 2018, the Slovakian Ministry of Environment adopted a ministerial order to tackle single-use plastics. The order, within the National Action Plan for GPP,[68] banned the purchase of bottled water for representation and other purposes by the Ministry and its public companies or agencies.
Alternative solutions	Tap water is instead served in jugs, unless no tap water is available on the premises. Water fountains can also be installed

[68] https://www.ensreg.eu/sites/default/files/attachments/stress_test_nacp_slovakia_2021.pdf

Alternative solutionsTap water is instead served in jugs, unless no tap water is available on the premises.

Water fountains can also be installed A range of publicly available resources are available worldwide to support states in the development of GPP policies in line with the above. For example, MedWaves has published guidelines on GPP specifically focussed on dealing with SUPs in the Mediterranean context, including a roadmap of actions that states could consider, as well as useful templates that could be adapted to the Nigerian context.[69] The UN One Planet Network Sustainable Public Procurement programme provides high level guidance and practical support for procurement practitioners who are seeking to reduce the impacts of problematic and unnecessary plastics within public sector procurement.[70]

[69] https://www.medwaves-centre.org/wp-content/uploads/2022/05/200221_guidelines_en_0-5.pdf
[70] https://www.oneplanetnetwork.org/sites/default/files/from-crm/73239%2520-%2520RWS%2520-%2520Sustainable%2520Public%2520Procurement%2520of%2520Plastics_TG_PDF_A_0.pdf

5.0 Combination and Sequencing of Actions

When designing and implementing a suite of measures to tackle SUPs, states should consider what measure is most appropriate for each SUP item and how the measures work together. States should assess SUP items using a systematic approach firstly by evaluating the necessity of the item – can the item be easily eliminated or replaced by an alternative product, method or procedure that doesn't require its use – and secondly, if the item cannot be eliminated, what alternatives can be developed to reduce the harmful impacts of SUP use. This can be done in priority order by first looking at whether there are reusable alternatives available. This is the preferred approach as it minimises the reliance on all single-use materials and reduces waste by encouraging a circular process. If there are no reusable alternatives available, then non-plastic variations should be explored. Options for these are outlined in the above section. A brief illustration of this approach is visualised in a decision tree diagram below in Figure 51.

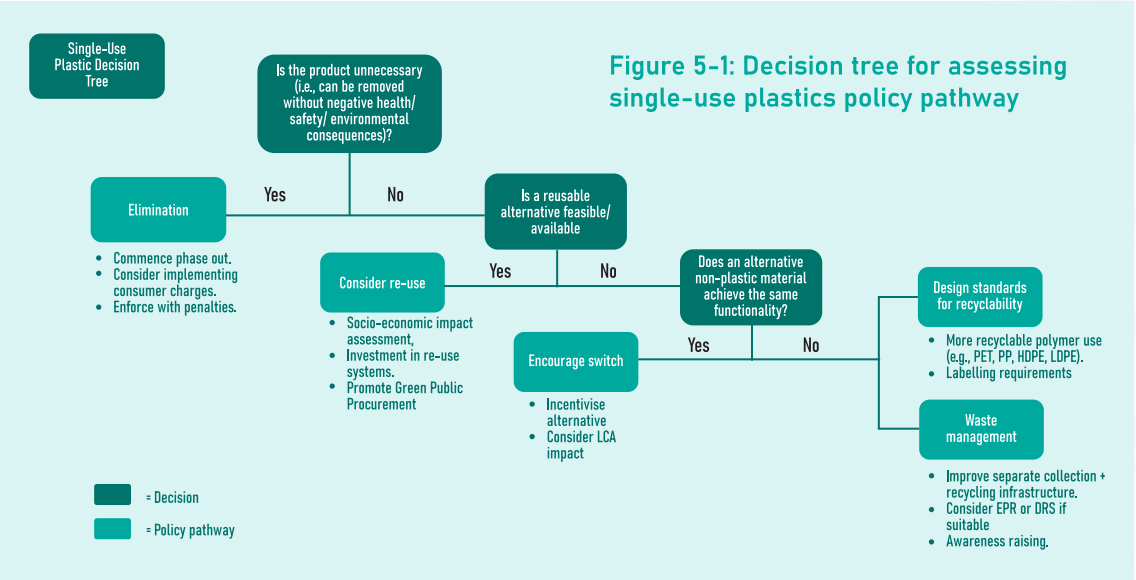


Figure 5-1: Decision tree for assessing single-use plastics policy pathway

This decision tree can be built upon to reflect the specific goals for SUP reductions as per the NPPWM, whilst considering the waste management and sectoral context for a specific SUP in a given state. For example, UNEP and the World Travel and Tourism Council (WTTC) have developed decision trees that are specific to five different categories of SUPs aimed at individual businesses and local policymakers to aid decision making related to these items (see Figure 52 below).[71] The Australian Packaging Covenant Organisation (APCO) has provided a more detailed decision tree for identifying and tackling problematic and/ or unnecessary SUPs in line with the objectives set by the Australian government and reflecting a range of potential alternatives and management strategies (see Figure 53 further down).[72]

[71] https://www.oneplanetnetwork.org/knowledge-centre/resources/priority-single-use-plastic-products-decision-trees
[72] https://documents.packagingcovenant.org.au/public-documents/Decision%20Tree:%20Problematic%20and%20Unnecessary%20Single-Use%20Plastic%20Packaging

Figure 5-2: UNEP/ WTTC Plastic Bottle Decision Tree

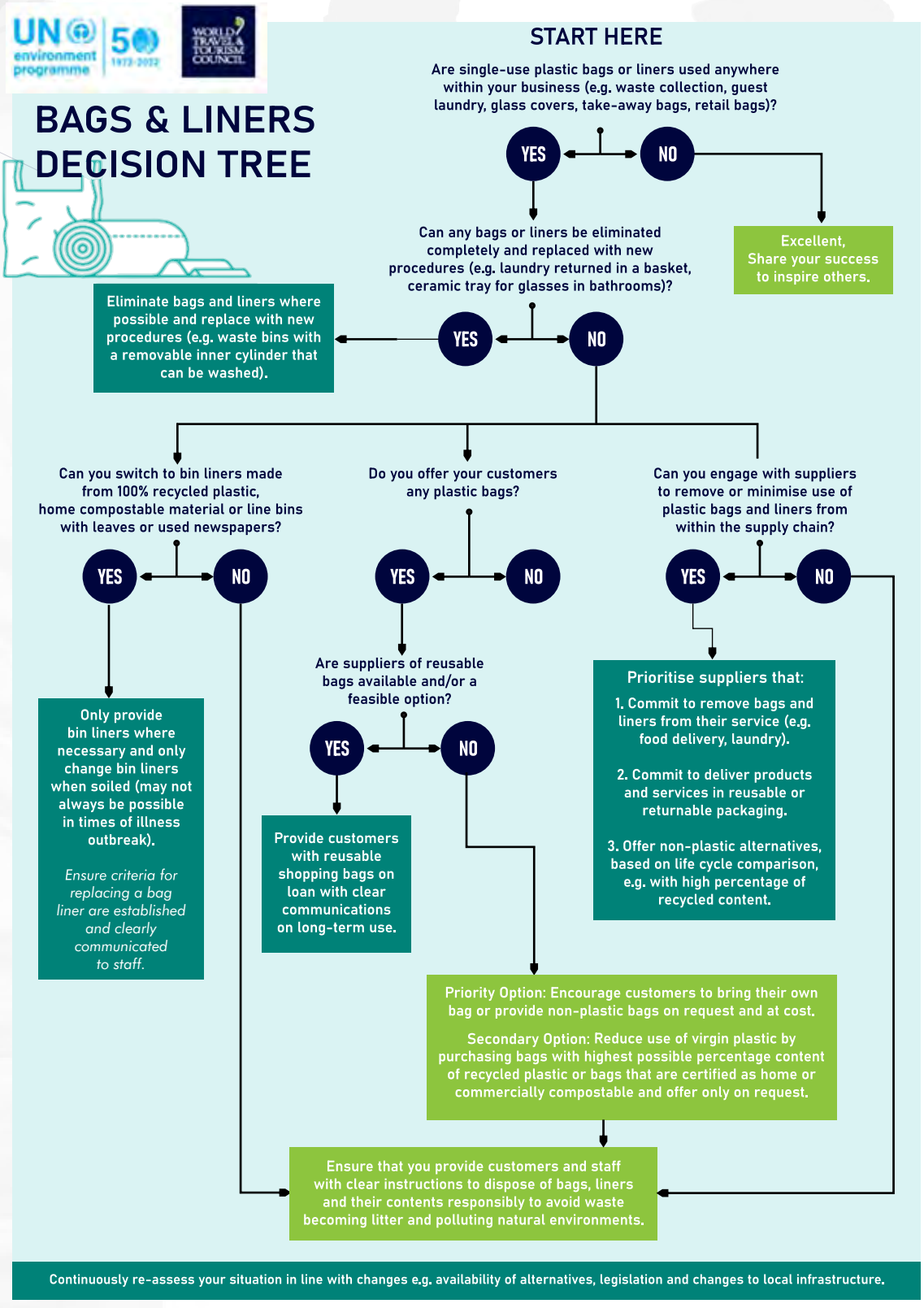
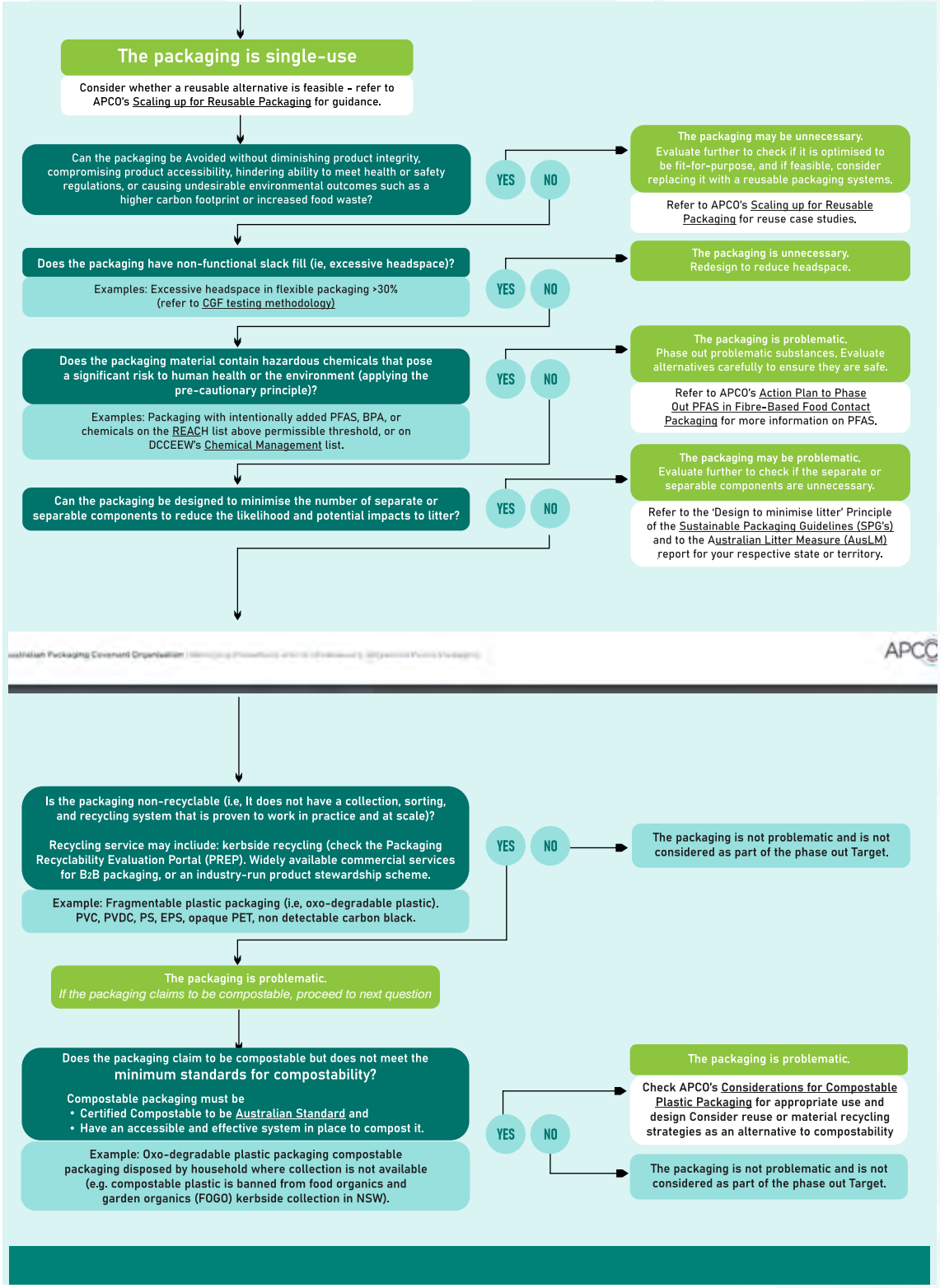


Figure 5-3: Extract from APCO decision tree



The above approaches highlight the fact that when deciding whether to reduce or eliminate consumption of SUPs, states should consider the necessity of the item and the availability of alternative products and systems. For instance, where the consumption of an SUP is for convenience only and alternatives are widely available, a ban (or charge) is likely to be suitable. Conversely, where there is a clear need for an SUP item and there are limited alternatives available then a ban may not be suitable. Instead, system or product/packaging design changes, EPR or a deposit refund system could be more appropriate.

States should also consider how best to implement actions on SUPs in a logical order which is clearly communicated in order to reduce confusion for stakeholders and citizens. When doing so, some key considerations that should be included are:

- The role of supplementary or complimentary actions – these may be more effective than some of the actions discussed in Section 4.0. A material or product tax for instance could more strongly influence producer behaviour than fee modulation under EPR.
- Ongoing developments in the national green tax (which was originally announced in March 2023, but suspended later that year in July). The green tax would have imposed a 10% tax and excise duty on some SUPs, including plastic containers and bottles. This could have supported the transition to implementation of state level measures to ban such SUPs or at least encourage the use of alternatives (which are likely more expensive than SUPs in the absence of the tax).
- Policies should be continuously monitored and improved over time, based on impacts and effectiveness – for example, consumer facing charges should be periodically reviewed and increased as their impact may reduce over time due to inflation.
- Giving stakeholders (including both retailers and consumers) adequate time to transition to alternatives and strong enforcement of new policies will both be crucial to ensure engagement and avoid unintended consequences.

Figure 54 below gives an indication of how actions to tackle SUP carrier bags could be scheduled. This timeline could inform the sequencing of similar actions for other SUPs.

Figure 5-4: Indicative scheduling of actions for carrier bags

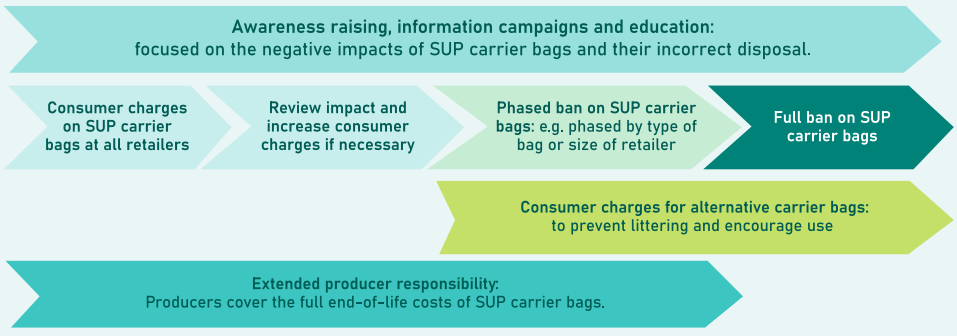
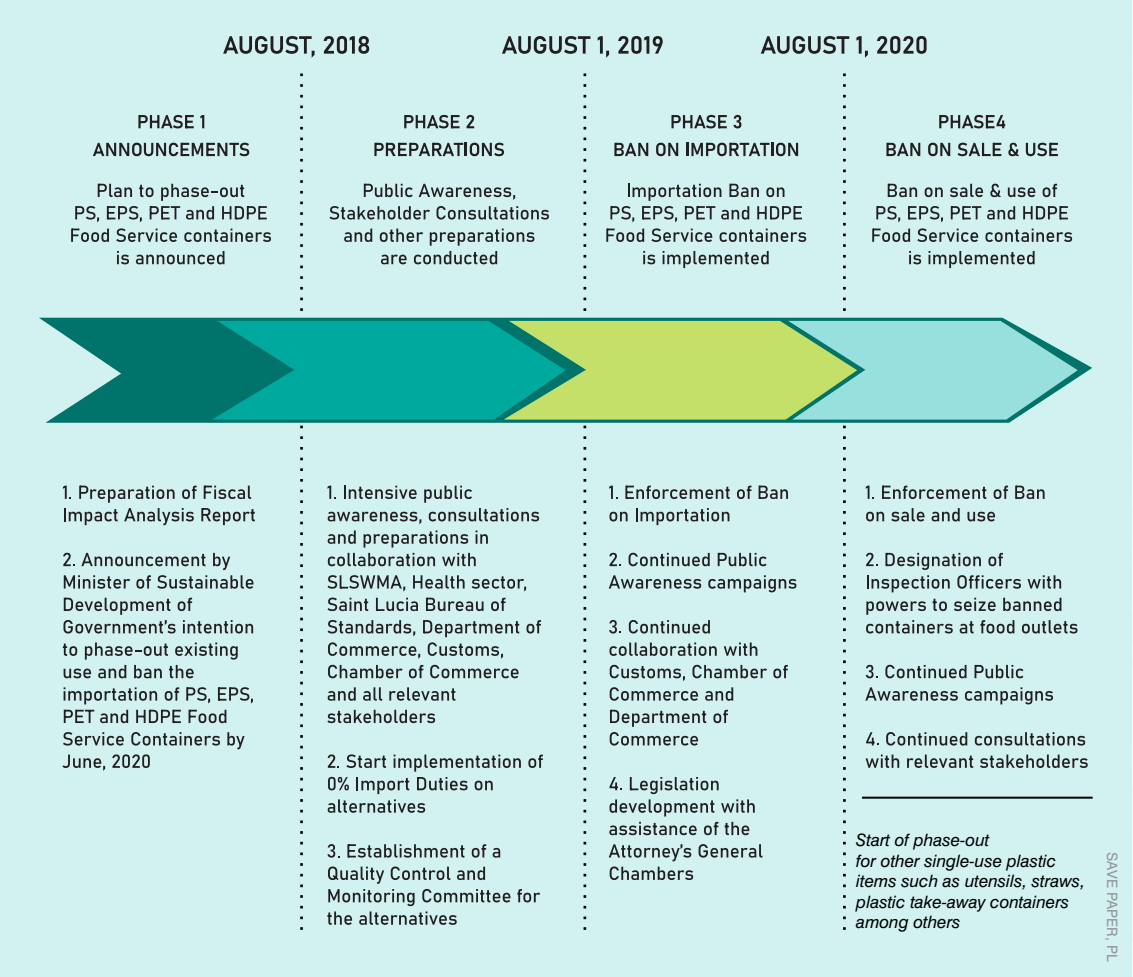


Table 5.1: Example: phase out of SUP and foam food containers, St Lucia

In January 2019, the Government of Saint Lucia approved plans to phase-out the use of polystyrene and expanded polystyrene, PET and high-density polyethylene containers in the food service industry.

The timeline for the policy had four phases from 2018 to 2020, namely: announcements, preparations, ban on importation and finally ban on sale and use. More detail is provided in the diagram below.



Source: Department of Sustainable Development (2019)

6.0 Data Collection and Monitoring

The NPPWM has a policy goal to generate a database on plastic from production to disposal. This includes gathering data on plastic which is consumed, disposed and discarded. With this overarching objective in mind, the NPPWM requires state ministries of environment to:

- Develop mechanisms and provide equipment and trained personnel to enhance data collection on plastic waste generation and characterisation,
- Collate data on all plastic waste management activities and report quarterly to the relevant Federal agency, and
- Ensure effective monitoring and evaluation of plastic waste management.

The NPPWM further requires state plastic waste management authorities to:

- Develop methodologies for collection of data on plastic waste generation;
- Establish a State plastic waste management database, and
- Develop and conduct monitoring, evaluation and auditing processes regarding Plastic Waste Management services.

These actions relate primarily to plastic waste management, reflecting the key role that State and Local Governments play in improving the circularity of materials by keeping them out of the environment (through comprehensive and accessible waste collection systems) and maintaining their material value (through recycling instead of incineration or landfilling). Further guidelines for State and Local Governments on improving plastic waste collections and diversion from landfill (recycling), including relevant considerations around data gathering and monitoring, have been developed within this project and will be available separately.

Related to the actions and measures that have been discussed within this guideline, however, states will need to develop an approach to gathering the necessary data required to monitoring progress. This should be done in discussion with the FMEnv and implemented with the support of LGAs and industry stakeholders. Some examples of the kinds of data that may need to be gathered include:

- The number/ volume of SUP carrier bags sold by retailers to consumers at the point of sale of goods or services. Monitoring should begin once the phase out/ charge on SUP carrier bags comes into effect and continue to establish the success of the ban once it is introduced.
- The number/ volume of other SUP items sold by retailers to consumers at the point of sale of goods or services. In some cases, the volume/ weight of goods sold in SUP containers relative to those sold in reusable containers may be a useful metric to consider (e.g., for

food and beverage containers in particular). Monitoring should begin once the phase out/ charge on other SUP items comes into effect and continue to establish the success of any bans once they are introduced.

- The number and total amount of any fines, notices or other penalties issued in order to demonstrate enforcement activity and current compliance levels with new measures.
- In the case of consumer charges, retailers should also be required to report on the gross proceeds from the charge on SUPs, and information regarding the number/ volume of different alternatives provided (e.g., for carrier bags, this could include paper bags, fabric bags, heavy plastic bags, etc.).

A range of tools can be used to facilitate the collection of these types of data, with the use of central reporting websites/ electronic registries being the preferred mode. This not only ensures consistency and enables automation of the data gathered, but also supports enforcement activity (since retailers have to be registered with the portal, meaning that unregistered retailers can be more easily identified). It is noted, however, that this may not be feasible for small vendors in particular, on whom the relative costs of gathering and reporting this data may be too high in the context of the total amounts of SUPs they are responsible for. In this case, it may be reasonable to require large and medium sized retailers (based on a reasonable certain threshold of turnover/ sales/ number of employees) to use the centralised website, with a sample of small vendors surveyed by state governments once a year in order, with the resulting data aggregated to get a full picture.

To illustrate these points, an overview of the data collection approaches that have been implemented to support the EU's consumption reduction targets for lightweight carrier bags is provided in the table below.

Table 6.1: Example: overview of data collection for reporting lightweight plastic carrier bags, European Union

Overview	The EU provided guidance to Member States for reporting of annual consumption of lightweight plastic carrier bags to comply with the Commission Implementing Decision (EU) 2018/896.[74] This included some examples of data collection methodologies and which systems are capable of collecting high quality data.

[74] https://ec.europa.eu/eurostat/documents/342366/351811/PBAG+-+Guidance+for+reporting+consumption+of+lightweight+plastic+carrier+bags.pdf/6b91b8ae-f5d3-e72a-b67a-fe2871161fa5?t=1621979611331

Table 6.1: Example: overview of data collection for reporting lightweight plastic carrier bags, European Union (cont.)

Types of data captured	Mandatory data on number and weight of lightweight plastic carrier bags placed on the market (either calculated from mandatory taxes, charges or levies or not). Further details of amounts of lightweight carrier bags that were exempted from relevant charges (if any). Voluntary data on other plastic carrier bags placed on the market (i.e., those that do not fall within the scope of the EU definition of lightweight plastic carrier bags). A quality check report to provide information necessary to validate the data that have been reported (e.g., summary of methodology used for calculations, data sources, etc.)
Data collection systems	- Data collection via reporting made to packaging registries - Data collection via reporting made under EPR requirements, whereby producers/importers usually report to PROs. - Direct reporting to government departments
Key elements	Data collection systems must achieve as much coverage of the market as possible, where this is unachievable, data should be upscaled and corrected as appropriate using estimates of the proportion of the market not covered. Best practice is to legislate for mandatory reporting by all producers and importers placing lightweight plastic carrier bags on the market.

The objectives for the measure being implemented should form the basis for any data gathering exercise, and any metrics, calculation methodologies and templates should be determined on that basis. Progress should be monitored against implementation plans and targets, and preferably against an appropriate baseline. State and Local Governments may need to work together to establish baseline data in a consistent way so that progress can be monitored accurately. If the expected progress is not achieved, measures should be revised as needed.

Finally, State and Local Governments should work together and alongside industry stakeholders to determine appropriate reporting frequencies, templates, and timelines. In the case of carrier bags, for example, a requirement to report annually (for each financial year) as a minimum should be appropriate, as this is when the retailer is likely to be carrying out regular accounting and stock-keeping tasks as well. However, the potential to report quarterly may be a preferable alternative for some and should therefore be provided (this also enables the enforcement authority to identify any issues sooner rather than later). The deadline for reporting should fall after (though not too long after) the reference period for which reporting is being undertaken, to give retailers the time needed to collate and report the necessary information (e.g., the deadline for reporting data for the financial year 2022-2023 could be July 2023, so that retailers have 3 months between April and July to report the relevant information).

An example template for how states could mandate retailers to report this type of data in the case of a consumer facing charge for carrier bags is included in Table 6.2 below.

Table 6.2 Example reporting template for carrier bag charge

Period (01/04/2022 – 31/03/2023)	Value (₦)
Charge applied per lightweight SUP carrier bag (excluding any taxes, etc.)	
Number of lightweight SUP carrier bags (<30 microns) sold	
Weight of lightweight SUP carrier bags (<30 microns) sold	
Total amount received from charge (excluding any taxes, etc.)	
Net proceeds of the charge (if applicable)	
Costs incurred from implementation	
Number/ weight of other plastic carrier bags provided (>30 microns)	
Number / weight of non-plastic single-use bags provided (e.g., paper)	
Number / weight of multiple use bags provided (e.g. fabric bags)	

7.0 Upcoming Developments

This section outlines ongoing activities at the Federal level that State and Local Governments will need to be aware of, as these will impact their own activities in the areas discussed as part of this guideline.

- States should consider how the actions in this guidance will be funded. The NPPWM states that plastic waste management activities will primarily be financed through annual budgets from National, State and Local Governments. States should seek clarity on how much this funding will be and how it will be distributed.

- The status of the green tax/ excise tax on SUPs that was announced in March 2023 (and suspended thereafter in July 2023) is unclear. Such a measure at Federal level would provide a valuable incentive for producers to reduce the supply of SUPs which would support any state level measures aimed at consumers to reduce the demand for such products.

- Work has been in progress to implement a plastic EPR scheme at Federal level (studies to support implementation and design of a registry have been undertaken by other organisations) though these do not appear to have been published and timelines for implementation are currently unclear. The NPPWM also outlines a requirement for a deposit return scheme (DRS) for beverage bottles, though there appears to have been no progress on this at Federal level to date.

- NESREA is in the process of finalising the Plastic Waste Control regulations which will be an important policy to support a range of measures related to plastic waste management, including prevention of litter and dumping of SUPs, and potentially some key elements of EPR as well. However, the timeline for the implementation of these regulations is currently unclear.

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for

NATIONAL POLICY ON PLASTIC WASTE MANAGEMENT

FEDERAL MINISTRY OF
ENVIRONMENT

S U P P O R T E D B Y

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