



FEDERAL REPUBLIC OF NIGERIA

NATIONAL POLICY *on* **SOLID WASTE MANAGEMENT**



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MANAGEMENT

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LIST OF ABBREVIATIONS

AD	Anaerobic Digestion
BAT	Best Available Technique
BCRCC	Basel Convention Regional Coordinating Centre
BEP	Best Environmental Practice
CBO	Community Based Organization
CDA	Community Development Authority
CSO	Civil Society Organization
CRT	Cathode Ray Tube
DFID	Department for International Development
DVD	Digital Versatile Disc
EEE	Electrical and Electronic Equipment
EPR	Extended Producer Responsibility
FCT	Federal Capital Territory
FEC	Federal Executive Council
FME _{env}	Federal Ministry of Environment
GRS	Generator Responsibility Scheme
GoN/FGN	Government of Nigeria/Federal Government of Nigeria
GDP	Gross Domestic Product
GHG	Green House Gases
IEC	Information Education and Communication
LAWMA	Lagos State Waste Management Authority
LCD	Liquid Crystal Display
LGA	Local Government Authority
MDA	Ministries Department & Agencies
MRF	Material Recovery Facility
NESREA	National Environmental Standards and Regulations Enforcement Agency
NGO	Non-Governmental Organization
PPP	Public Private Partnership

POPs	Persistent Organic Pollutants
PSP	Private Sector Participation
SME _{nv}	State Ministry of Environment
SWM	Solid Waste Management
TLS	Transfer Loading Station
UN	United Nations
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNIDO	United Nations Industrial Development Organization
WCV	Waste Collection Vehicles
WHO	World Health Organization

DOCUMENT ARRANGEMENT

This document is divided into two parts:

Part I: An introduction providing a background to waste management issues in Nigeria, an overview of existing legislations, institutional arrangements and responsibilities for waste management, situational analysis including the rationale for a national solid waste management policy.

Part II: Articulation of the national policy for solid waste management in Nigeria.

FOREWORD

Solid waste is currently one of the fastest growing waste streams in the world. Thus, managing solid waste has become an important concern in both domestic and international material cycles, for environmental preservation, efficient resource utilization and sustainable development.

Nigeria, like many nations is faced with gross environmental problems and solid waste stands as one of the major challenges. Solid waste generation has consistently expanded both in volume and complexity due to the rapid increase in population over the years, socio-economic development, industrialization, technology advancements, changing lifestyles and consumption patterns. Sadly, these developments have not been matched by adequate provisions which include funding and infrastructural facilities to sustainably manage this ever growing quantum of waste. Consequently, this has led to poor state of our environment; as all manner of wastes clog our drainages, litter our streets, high-ways, market places, water bodies, public places and in fact most open places. Open and indiscriminate burning of hazardous and non-hazardous solid waste as a disposal method, is still a common practice among the citizenry.

Therefore, the need to address the menace and challenges and reverse the trend informed the decision of Government to develop a robust solid waste management policy intended to provide comprehensive framework for sustainable solid waste management in Nigeria.

I am pleased to note that in developing this policy document, a systematic process of information collection, research and consultation was undertaken which involved Government, Non-Governmental Organizations (NGO's), Community and Private sector stakeholders. The vision of the policy is a true and accurate reflection of what the Nigerian Government intends to achieve in the area of solid waste management.

The policy is a significant step in the right direction. It is a priority of Government to develop a good and sustainable solid waste management system through providing policy, while the objective of the policy can only be achieved through collective commitment and participation. This applies to all Nigerian citizens, Government, Institutions, Industrial and Commercial enterprises in the country.

This policy is aimed amongst others at:

- Promoting a clean and healthy environment for sustainable socio-economic development of the nation;
- Reducing and eventually eliminating heaps of solid waste in our cities and rural communities and reduction in associated public health problems;
- Development of waste management infrastructures;
- Promoting private sector investments in Solid Waste Management;
- Promoting the Reuse, Reduce, Recycle and Recovery initiative;
- Restoring and Conserving natural resources;
- Creating wealth and employment from waste management.

This policy which has been developed through a collaborative effort is presented to all Nigerians and stakeholders for implementation and support towards the protection of human health and the environment.



Dr. Mohammad Mahmood Abubakar

Honorable Minister of Environment

ACKNOWLEDGEMENT

The Federal Ministry of Environment, working in close collaboration with the United Nations Industrial Development Organization (UNIDO) coordinate the development of the National Policy on Solid Waste Management.

In developing this policy document, the ministry engaged relevant stakeholders such as State Governments, the organized Private Sector, Civil Society Organizations, relevant Federal and State Ministries, Departments and Agencies, Development Partners, Academia, Embassies and Accredited Environmental Consultants / Waste Management Practitioners to come up with this comprehensive and sustainable policy that will provide a framework for proper solid waste management in Nigeria.

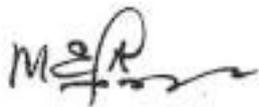
Consequently, the Federal Ministry of Environment wishes to express its profound gratitude to UNIDO for supporting the development of this policy document. The Ministry is equally grateful to the Kaduna State Government for the financial and technical support it provided for the hosting of the inception work, for the development of the policy, in Kaduna.

The contributions and inputs of staff of Federal Ministry of Environment led by Pollution Control and Environmental Health Department, the 36 State Governments, the organized Private Sector, Civil Society Organizations, relevant Federal and State Ministries, Departments and Agencies (MDAs), Embassies and Accredited Environmental Consultants/Waste Management Practitioners and all other stakeholders whose invaluable contributions greatly enriched the quality of this policy document, are acknowledged.

The unique roles played by Mr. Jean Bakole (Regional Director), Dr. Chukwuma Ezedinma and Mr. Oluyomi Banjo (Environment Expert) from UNIDO Regional Office Hub for Nigeria and ECOWAS in

managing and ensuring the successful implementation of the project; Dr. Obi A. Anyadiegwu and Mr. Akindutire Adewole (UNIDO Consultants) in preparing the document are commendable.

It is hoped that this policy shall encourage greater commitment from all stakeholders, provide clear guidance and serve as the catalyst for a more vigorous, coordinated and sustained action to promote sound solid waste management practices in Nigeria.



Mr Abel Olumuyiwa Enitan

Permanent Secretary

Federal Ministry of Environment

PART 1

PREAMBLE

This policy document is a deliberate system of principles to guide decisions and achieve rational outcomes in the management of solid waste in Nigeria. The increasing complexity and quantity of wastes produced in Nigeria has been of increasing concern in recent years. These concerns result from various factors including: Lack of a legislative framework to control the incidence of unsound waste management practices; and, inadequacy of existing infrastructure to adequately manage the amount and types of waste generated, amongst other factors. Core problem of solid waste management in the country are attributable to the non-implementation of existing laws and legislations, need for the upgrade of obsolete legal instruments, inadequate budgetary provisions and funding mechanisms, and poor monitoring and evaluation mechanisms as to guide the environmentally safe and sound practices in solid waste management. Solid waste management programmes have been operated without a national policy and this has attracted criticisms from various stakeholder groups on solid waste management in the country.

Part II of the Second Schedule to the Nigerian constitution has waste management as “Concurrent Legislation” - the Federal Government, the States, as well as the Local Government Councils are empowered to legislate on waste; thus, there are several Federal legislations (Acts and Regulations) at the Federal level, States and Federal Capital Territory laws and regulations promulgated by their respective Houses of Assembly, and 'Bye-Laws' governing waste management at the Local government Authorities level. The task of municipal refuse management constitutionally lies with the local government authorities, but it is expected that their activities should be guided by a national policy on solid waste management.

It is against this backdrop that the Federal Ministry of Environment (FMEnv) in conjunction with the United Nations Industrial Development Organization (UNIDO) embarked on the development of a National Solid Waste Management Policy to guide effective, sustainable, socially acceptable, environmentally safe and sound management of solid waste in Nigeria.

This solid waste management policy thus presents an overarching principle for solid waste management decisions in-country based on the principles of sustainability in line with economic vitality and ecological integrity. The onus for compliance with this Policy lies with all persons, public or private, who are involved in, cooperate with, or utilise the waste management services functions.

As part of the policy drafting process, a national stakeholders workshop was held on 16th – 17th December 2015 in Kaduna where stakeholders from the policy making, technical, operational, funding, and international partners, committed to ensuring that the country develops and implements a National Solid Waste Management Policy (NSWMP) that will guide the sector; and a communiqué was put forth (Annex 1).

1 INTRODUCTION

1.1 BACKGROUND AND EXISTING SITUATION

This National Policy on Solid Waste Management has been developed by the Federal Government of Nigeria (FGN) as a shared national vision of how solid wastes will be managed more sustainably. It has been developed in close consultation with stakeholders.

Solid waste management is one of the most pressing environmental challenges faced by developing countries. With a population of 170 million (2006 national census), Nigeria produces a large volume of solid waste out of which less than 20% is collected through a formal system. The existing solid waste management system is affected by economic, institutional, legislative, technical and operational constraints.

SOLID WASTE

The Basel Convention defines wastes as “substances or objects, which are disposed of or are intended to be disposed of, or are required to be disposed of, by the provisions of national law” (Basel Convention 2011). This includes “substances or objects which are subject to disposal operations which either lead to or do not lead to the possibility of resource recovery, recycling, reclamation, direct re-use or alternative” (UNEP 2015).

Municipal Solid Waste (MSW) as defined by the UN-Habitat 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, slaughter houses, public toilets, bus stops, parks, and gardens”. This working definition also includes most commercial and business wastes, with the exception of wastes from industrial processes and other hazardous wastes (UN-Habitat 2010:6)

Solid waste covers a host of biodegradable and non-biodegradable unwanted/used materials in a solid and semi-solid state that includes forms of household waste, refuse, construction and demolition debris, garbage, electronic waste, sludge from waste treatment plant, and other discarded materials including solids, semisolids resulting from industrial, commercial, mining and agricultural operations and from community activities. Majority of these substances are composed of paper, organic matter, plastics, metals, textiles, rubber and glass. Primarily, plastics, glass and most metals that make up fractions of these wastes are non-biodegradable and thus remain a nuisance in the environment for years.

Solid waste has become a growing concern in many developing countries due to increase in economic and developmental activities driven by production and consumption patterns. In some cases, the end-stage of these production and consumption activities result in waste that are recycled and reused; however, in the majority of cases these end-of-stage waste are discarded/disposed of. If left unchecked solid waste can lead to grave environmental and health consequences; however, if properly managed solid waste can be harnessed to create job opportunities and promote growth in Gross Domestic Product (GDP) through wealth generation mechanisms, in addition to a host of environmental, social and aesthetic benefits that will be created.

SOURCES OF SOLID WASTE:

The sources of solid waste shall include but not limited to:

- a) Households
- b) Offices
- c) Cafes and restaurants, hotels, food stalls
- d) Schools, universities, laboratories
- e) Commercial outlets (shops, supermarkets, warehouses, etc.)
- f) Markets
- g) Public facilities
- h) Hospitals and other healthcare facilities
- i) Mines and mineral processing facilities
- j) Agriculture and food processing facilities
- k) Fishing and fish processing facilities
- l) Forestry operations
- m) Construction wastes (Construction and demolition)
- n) Industries

- o) Marine litter
- p) Water treatment and sewage treatment facilities
- q) Land transport facilities (truck depots, bus and train stations and terminals)
- r) Car yards and car repair shops (Automobiles repair shops)
- s) Aircraft (airports)
- t) Ships (ports, marinas)

1.2 WASTE CATEGORISATION

Correct classification is the foundation for ensuring that the segregation, collection, transportation, storage, treatment and disposal of waste is carried out in a manner that provides protection for the environment and human health and in compliance with legal requirements. Waste categorization is a system of classification of waste according to predefined criteria. For the purpose of this solid waste management policy document, waste shall be classified according to the following:

- a) Household waste
- b) Industrial waste
- c) Electronic waste (e-wastes)
- d) Special bulk waste
- e) Agricultural waste
- f) Marine Litter
- g) Medical Waste

1.2.1 HOUSEHOLD 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).

1.2.2 INDUSTRIAL WASTE

Waste produced by industrial activity which includes any material that is rendered useless during a manufacturing process such as that of factories, industries, mills, and mining operations.

1.2.3 ELECTRONIC WASTE

E-wastes are discarded electrical and electronic devices and components as well as substances involved in their manufacture or use which are destined for reuse, resale, salvage, recycling, or disposal.

1.2.4 SPECIAL BULK WASTES:

Special bulk wastes are wastes that are too large to be accepted by the regular waste collection. Bulk waste items include discarded furniture (couches, recliners, tables etc.), large appliances (refrigerators, ovens, TVs etc.), and plumbing fixtures (bathtubs, toilets, sinks etc.). Branches, brush, logs and other green waste are also categorized as bulk waste.

1.2.5 AGRICULTURAL WASTES:

Agricultural waste refers to waste produced from various agricultural operations, including waste from farms, poultry houses and slaughterhouses, harvest waste, fertilizer run-off from fields, pesticides that enter water, air or soils, and salt and silt drained from fields.

1.2.6 MARINE LITTERS:

Marine litter (sometimes called marine debris) are any persistent, manufactured or processed solid material, which is discarded, disposed of or abandoned, in the marine and coastal environment. Marine litter consist of mostly very slowly degradable waste items such as plastic, polystyrene, metals and glass. Waste under this category in this policy shall include waste disposed in territorial waters emanating from both inland activities and marine activities such as visiting vessels and mariners.

1.2.7 MEDICAL WASTES:

Medical waste is defined as waste materials generated at health care facilities, such as hospitals, clinics, physicians' office, dental practices, home treatments, blood banks, and veterinary hospitals/clinics, as well as medical research facilities and laboratories.

1.2.8 USED TYRES:

Used tyres are tyres that are unfit for their original use and are discarded which can be recycled or reused.

1.2.9 END OF LIFE VEHICLES

End of life vehicles are vehicles damaged and abandoned or disposed which can be recycled.

1.2.10 UNSERVICEABLE FRIDGES/FREEZERS

These are fridges/freezers that are not serviceable for originally intended use.

1.2.11 USED BATTERIES

Used batteries are whole or scrap batteries that have reached their end of life span/cycle and can be reprocessed or recycled.

1.2.12 CONSTRUCTION/ASBESTOS WASTES

Asbestos wastes are construction waste that are presently phased out in the construction industry and are hazardous in nature and meant to be disposed of.

1.3 INTEGRATED SOLID WASTE MANAGEMENT

Integrated solid waste management refers to a combination of strategies and methods to be adopted in promoting effective handling of solid waste through a comprehensive approach. Solid waste management is a complex task that depends largely on organization and cooperation between households, communities, private enterprises, industry and municipal authorities, as well as selection and application of appropriate technical solutions for waste generation, handling/sorting, storage, collection, transportation, transfer, treatment and disposal.

Various agencies are increasingly becoming active in the management of solid waste including Federal/State/Local governments, private sector, NGOs and various forms of public-private partnerships resulting in pilot projects and programmes. An integrated system that will provide a holistic framework for the scale-up of these activities to create country-wide impact is very necessary but still lacking.

It is necessary for Nigeria to tackle the issue of solid waste with all seriousness and to align with international best practices and thus adopt solid waste management trends that will:

- Result in substantial reduction in volume of waste generated
- Increase re-use, recovery and recycling activities while targeting the elimination/upgrade of unsanitary dumpsites and landfills.
- Encourage private sector participation in solid waste management
- Create enabling environment for improved investments in the sector
- Promote job creation and improved economic activities by establishing waste to wealth schemes
- Comply with international best practices in environmental health and safety standards for SWM sector

- Embed modern technologies in all SWM activities (recovery, collection, transport, disposal, treatment, etc.) in-country
- Comply with international treaties and protocols adopted and ratified by the country on waste management.

The first step to achieving these best practice systems is to develop and implement a national policy document to serve as a guide for solid waste management for the country.

Waste management entails a holistic approach, which spans from reduction, sorting, reuse, collection, storage, transport, recovery, recycling, treatment and disposal in an environmentally sound manner.

Designing and implementing proper solid waste management techniques aid in:

- The recovery of useful resources and leading to a reduction in adverse impacts of wastes on the environment, and public health & safety.
- Contribute to improved national GDP by promoting wealth generation schemes from waste;
- Reduce Greenhouse gas (GHG) emissions to the environment, and if planned and managed properly, would earn income and investments through instruments such as the "Clean Development Mechanism (CDM) of the Kyoto Protocol, and other global funding mechanisms for GHG emissions reductions.
- Create employment through the different chains involved in sustainable and sound management practices
- Encourage and improve resource efficiency
- Fight poverty
- Reduce ill health and thus savings on health bills by individuals and governments
- Improve aesthetic beauty of our cities and communities
- Improve tourism potentials

WASTE TO ENERGY

An additional benefit of the integrated waste management approach is the generation of energy from waste. In recent years, technologies have been developed that convert waste to energy; using biomass as feedstock. The Nigerian power sector has been receiving attention and

undergoing reforms to help address the issues of inadequate power supply around the country, hence sound and integrated SWM will create an alternative and reliable renewable source of energy. Though this is currently at an inception phase in the country, if scaled up, could help meet the growing needs for electricity for businesses in the small and medium enterprise sectors and also a source of fuel generation such as cooking gas, methanol and/or ethanol from waste conversion.

1.4 SITUATIONAL ANALYSIS – SOLID WASTE ISSUES IN NIGERIA

With increasing population and industrialisation, Nigeria is faced with the challenge of adequately handling the increasing quantum of solid waste generated from anthropogenic activities. The challenges facing the sector can be capped under the following major issues:

- Absence of adequate laws and enabling legislations
- Weak enforcement of available laws, regulations, and applicable sanctions
- Uncoordinated institutional functions/ overlapping functions of existing institutions
- Inadequate funding and inappropriate technologies for sustainable and effective MSWM.
- Lack of awareness among the general populace on the deleterious impacts of poor solid waste management practices.
- Inadequate technical capacity and culture for maintenance of the few existing waste management facilities in the country.
- Lack of comprehensive and reliable data for adequate solid waste management in the country
- Poor data availability and assessment techniques
- Very limited private sector investment
- Lack of political will.
- Lack of incentives for private sector participation in service delivery of solid waste management - in terms of loans, and availability of jobs to be undertaken by private sector participants.
- Absence of voluntary compliance
- Lack of clear roles and responsibility for the various tiers of government
- Inadequate solid waste infrastructure in the country
- Lack of cost recovery mechanisms for waste management services

In more specific terms;

The current solid waste management system in Nigeria is very rudimentary, inefficient and unsustainable, characterized by inadequate waste management facilities, poor access to waste collection and management services, and very low quantum of generated waste collection.

1. Wastes are dumped indiscriminately on roadsides, open pits, underneath bridges, in culverts and in drainage channels without concerns for health and environmental implications.

2. Waste disposal systems do not conform to best practices and in most cases, there is no sound or acceptable disposal method for solid waste in place. These wastes are usually heaped in piles within residential areas and often-times burnt openly when it overflows or the stench from it becomes unbearable, creating air pollution associated issues. Reckless disposal of solid waste has led to blockage of sewers and drainage networks, and eutrophication and choking of water bodies.

3. Most states in the country do not have policies guiding solid waste management, only fragmented and un-harmonised waste management laws exist.

4. Accurate data on solid waste generated in Nigeria are not readily available which hinders the basis for proper planning, quantifications and projections for effective facilities provision and management. Improved data collection methodologies and facilities need to be developed at all tiers of governance (Local, States and Federal) and a database created at each tier with final harmonisation at the Federal level to serve as a basis for factual evaluations and planning.

5. Poor funding, inadequate human and technological capacities, and an inefficient and inadequate costing system for waste collection and management have hampered the activities of States environmental and waste management agencies. Despite the inadequacy of a regulatory framework and other factors previously listed, a few notable developments have been achieved in the country including:

- *Recycling activities are steadily increasing across the Country, but still largely restricted to the informal sector. Plastic recycling plants exist in some states such as Lagos, Anambra, Ekiti, Kaduna, Katsina, FCT, and Bauchi.*

- *Municipal Waste Treatment plants are also in existence in some States but inadequate for the capacity of wastes being generated. Compost Plants have been established in Kano, Kaduna, Lagos and Anambra, and a “waste to energy” plant in Lagos.*

TRANS-BOUNDARY SOLID WASTE ISSUES

Nigeria as a developing country has been known to rely on a lot of importation of products to meet the demands of the populace, - a significant portion of these products being second hand/ used - ranging from electrical and electronics equipment (some of which are termed as “waste” in the countries of export), cars, metals, tyres, clothing, etc. - the export of these used items (especially of items such as electronics, used lead acid batteries, used tyres, etc.) to developing countries is an easy way for the developed nations to deal with their hazardous waste streams, but unfortunately, have severe environmental pollution and public health risks for the countries of import of these wastes.

Hence Nigeria requires vigilance and protection guidelines as an integral part of this “policy” to protect its citizens and to comply with international treaties and conventions such as the Basel and Bamako Conventions to which it is signatory to.

It is important to note that provision of laws and regulations alone will not solve the issues of trans-boundary movement of wastes. Vigilance at all entry points for imports into the country, and an integrated and cooperative system of wastes management at the national, regional and international levels will be the best approach.

1.5 DEVELOPMENT OF A NATIONAL SOLID WASTE MANAGEMENT POLICY

The aforementioned issues surrounding the current state of solid waste management in Nigeria has necessitated the need for the country to develop and implement a comprehensive solid waste management policy to serve the sector. In light of this, the Federal Ministry of Environment with support from the United Nations Industrial Development Organisation (UNIDO), other technical partners, and critical stakeholders in the public and private sectors have developed this National Solid Waste Management Policy as a statement of intent to be implemented as a procedure or protocol in the management of solid waste in the country.

1.6 PRIORITY SETTING

Some priority areas have been identified which form the basis for the urgent need of a national solid waste management policy. This policy document will be subject to periodic review as identified herein to reflect changing priorities in national solid waste management regime. Identified priority areas include but are not limited to:

- Environmental protection
 - Safeguarding public health
 - Enhancing institutional arrangements and capacities at the Federal, States and Local Governments to effectively handle waste management in-country
 - Provide an enabling environment for investments and Public Private Participation (PPP) arrangements in the waste management sector in the country
 - Promote waste-to-wealth schemes and thus contribute to increase in national GDP
 - Encourage resource efficiency and zero waste generation
 - Sensitization of stakeholders on effective and safe solid waste management practices
 - Facilitate the development of national standards for waste generation reduction processes and engender recovery, recycling and re-use processes in manufacturing processes including the introduction of appropriate technology options.
 - Encourage and improve sustainable environmental attitudes and culture
 - Support the local governments to develop the art of enacting by-laws geared towards rural sanitation.
 - Develop national waste classification and data bases at all tiers of governance that would be beneficial in evidence based decisions and direction for effective and sustainable solid waste management
 - Provide a platform for developing strategies to reduce greenhouse gas emissions and other pollution effects from landfills and other waste management activities.
 - Fulfill the country's obligations to international protocols, treaties and conventions.
-
- Environmental protection
 - Safeguarding public health

2 REVIEW OF EXISTING POLICIES, LAWS, REGULATIONS AND INSTITUTIONAL FRAMEWORKS

In the process of developing this policy document, existing relevant national and international legal instruments and policies were sourced and reviewed:

2.1 REGULATIONS ON SOLID WASTE:

- i. Constitution of the Federal Republic of Nigeria
- ii. National Policy on Environment, revised
- iii. Federal Environmental Protection Agency Act, 1992
- iv. Environmental Impact Assessment Act of 1992
- v. National Environmental (Sanitation and Wastes Control) Regulations, S.I No.28 of 2009
- vi. National Environmental Protection (Pollution Abatement in Industries and Facilities Generating Wastes) Regulations S.I.9 of 1991;
- vii. The Harmful Wastes Special Criminal Provision Act No42 of 1998;
- viii. National Environmental Protection Management of Solid and Hazardous Waste Regulations S.I.15 of 1991;
- ix. The National Guidelines and Standards for Environmental Pollution control in Nigeria
- x. The National Environmental Standards and Regulations Enforcement Agency Act, 2007 (NESREA Act)
- xi. The National Environmental (Electrical/Electronic Sector) Regulations 2011, as gazetted in Federal Government Gazette No. 5, Vol. 98. In the gazette, the 3R"s of waste management was expanded to 5R"s, namely: Reduce, Repair, Reuse, Recycle and Recover
- xii. The National Oil Spill Detection and Response Agency Act 2005 (NOSDRA Act)
- xiii. Environmental Guidelines & Standards for the Petroleum Industry in Nigeria
- xiv. National Environmental (Base Metal, Iron and Steel Manufacturing/Recycling Industries Sector) Regulations, 2011
- xv. National Policy on Municipal & Agricultural Waste Management, 2012 (Draft)

- xvi. National Environmental (Pulp and Paper, Wood and wood Products sector) Regulations, S.I 34 of 2013
- xvii. National Environmental (Motor Vehicle and Miscellaneous Assembly Sector) Regulations, S.I 35 of 2013
- xviii. Merchant Shipping Act, 2007
- xix. Merchant Sea Dumping Regulations, 2013
- xx. Nigerian Maritime and Safety Administration (NIMASA) Act, 2007

2.2 INSTITUTIONAL ARRANGEMENTS FOR SOLID WASTE MANAGEMENT IN NIGERIA

- i) Senate Committee on Environment and Ecology
- ii) House Committee on Environment and Habitat
- iii) Federal Ministry of Environment (FMEnv)
- iv) National Environmental Standards, Regulation and Enforcement Agency (NESREA)
- v) Environmental Health Officers Registration Council (EHORCON)
- vi) Nigerian Maritime Administration and Safety Agency (NIMASA)
- vii) National Oil Spill Detection and Response Agency (NOSDRA)
- viii) Department of Petroleum Resources (DPR)
- ix) Abuja Environmental Protection Board (AEPB)
- x) States Ministries of Environment
- xi) States Environmental Protection Boards, Agencies, Commissions, etc.
- xii) Local Governments' Authorities (Departments' of Environment and Health, Works, etc.)
- xiii) Waste/Refuse Management Authorities.
- xiv) Private sector - formal and informal ("Scavengers") in Solid Waste Management.

2.2.1 THE SENATE STANDING COMMITTEE ON THE ENVIRONMENT AND ECOLOGY/ THE HOUSE COMMITTEE ON ENVIRONMENT

– Section 4(1) under part II, of the Constitution states inter alia; it goes further, in Section 4(2), to give the National Assembly powers to make laws with respect to any matter included in the Exclusive legislative List. With respect to SWM, the mandate of the Senate Standing Committee on Environment and Ecology is spelt out in Rule 98 (23) of the Senate Standing Order, 2011 (Amended). The jurisdictions of the committee include matters affecting FMEnv, control of industrial waste, Control of toxic and other hazardous waste, dumping of waste in Nigerian territory by foreign agents/nations, environmental sanitation, ecological fund, annual budget estimates, etc.

2.2.2 THE FMEnv AND THE STATE MINISTRIES OF ENVIRONMENT provide overarching guidance; including policies, legal and regulatory framework for waste management, national/state guidelines and plans, etc.

2.2.3 STATUTORILY THE LOCAL GOVERNMENT AUTHORITIES are charged with direct responsibility for the management of refuse within their domains. However, they presently lack the technical, financial and personnel capacity to fulfil this obligation effectively.

2.2.4 THERE ARE EXISTING POLICIES, LEGISLATIONS, REGULATIONS, ACTS, BY-LAWS AND GUIDELINES in the country that apply to environmental issues, sanitation and categories of solid and hazardous wastes, but they are haphazard and scattered in different documents. There is a real need for these to be organized and improved ones made and integrated into clear documents targeting different sectors in the waste management chain. There are also statements supporting reuse, recycling and recovery without clear definitions of reuse, recycling and recovery targets.

2.2.5 THE INCLUSIVENESS CLAUSE IS ALSO A REGULATORY FRAMEWORK - The onus for compliance with this Policy lies with all persons, public or private, who are involved in, cooperate with or utilise waste services functions that take place within the boundaries of Nigeria

2.3 INTERNATIONAL LEGAL INSTRUMENTS ON WASTE

On the West and Central African regional front, Nigeria being the most populous, most industrialized and largest economy needs to champion solid waste management initiatives and play a lead role. It needs to promote strategies to strengthen compliance with international treaties on the environment especially as they concern regulations and management of all wastes types in general and solid wastes. Some international and regional instruments to which Nigeria is signatory include:

2.3.1 UNITED NATIONS ENVIRONMENT PROGRAMME (UNEP) - established after the 1972 UN Conference on the Human Environment held in Stockholm, Sweden. UNEP is an important agency in the evolution of conventions and instruments in the field of environmental protection. It is also the environmental conscience of the United Nations system. Nigeria has benefited immensely from application of provided UNEP guideline documents as in the management of solid waste, persistent organic pollutants, etc. and these strategies and plans have served as benchmarks for the country. The country needs to develop more plans in line with UNEP guidance documents in its bid to keep improving on its environmental protection activities.

2.3.2 THE BASEL CONVENTION - was adopted on 22nd March 1989 and deals with the trans-boundary movement of toxic and hazardous wastes. The overarching objective of this Convention is to protect human health and the environment against the adverse effects of hazardous wastes. With respect to EEEs and other hazardous wastes, developed countries aware of the risks and health hazards to humans and environmental health coupled with the higher costs of safe recycling and the stringent regulations in their home countries find it easier to ship their hazardous and e-wastes to developing countries where there are lax regulations and cheap labor. The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (Basel convention) was designed to reduce the movements of hazardous waste between nations, and specifically to prevent transfer of hazardous waste from developed to less developed countries (LDCs). The Convention is also intended to minimize the amount and toxicity of wastes generated, to ensure their environmentally sound management as closely as possible to the source of generation, and to assist LDCs in environmentally sound management of the hazardous and other wastes they generate. Nigeria having ratified this convention has continued to take steps to fulfill its obligations, part of which was the set-up of the Basel Convention Regional Coordinating Centre and Technology Transfer Linkage Centre (BCRCC) in Ibadan, Nigeria.

2.3.3 THE EARTH SUMMIT - gave birth to the Rio Declaration of 1992; the broad objectives of governments on environmental issues were emphasized to integrate environmental concerns into national economic planning and decision-making. The Rio declaration addresses the deteriorating environmental problems such as ozone layer depletion, global warming, water pollution, destroyed natural habitats, etc. It also addresses today's pressing environmental problems and aims to prepare the world for the environmental challenges of the next century. It contains detailed proposals for action in social and economic areas (such as alleviating poverty; changing patterns of production and consumption; addressing demographic dynamics; conserving and managing the natural resources that are the basis for life; protecting the atmosphere, oceans, and biodiversity; preventing deforestation; and, promoting sustainable agriculture.

2.3.4 THE BAMAKO CONVENTION - ON THE BAN ON THE IMPORT INTO AFRICA AND THE CONTROL OF TRANSBOUNDARY MOVEMENT AND MANAGEMENT OF HAZARDOUS WASTES WITHIN AFRICA - is a treaty of African nations prohibiting the import of any hazardous (including radioactive) waste. The Convention was negotiated in January 1991, and came into force in 1998. The impetus for the Bamako Convention arose from the failure of the Basel Convention to prohibit

trade of hazardous waste to less developed countries (LDCs), and from the realization that many developed nations were exporting toxic wastes to Africa. Being a regional convention, it aligns with a lot of needs and peculiarities of the African nations with the articulation of more specific and active guidelines in e-waste trade for both the importing and exporting countries. The Bamako Convention uses a format and language similar to that of the Basel Convention, but is much stronger in prohibiting all imports of hazardous waste. Additionally, it does not make exceptions on certain hazardous wastes (like those for radioactive materials) made by the Basel Convention. Nigeria signed the Bamako Convention in February 2008, but has not yet ratified it. The regulations of the convention are critical to tackling the management of solid waste (especially e-waste) in Nigeria and within the region as a whole.

2.3.5 THE STOCKHOLM CONVENTION on Persistent Organic Pollutants - was adopted by the conference of Plenipotentiaries on 22 May 2001 in Stockholm, Sweden. The Stockholm Convention is a global treaty to protect human health and the environment from chemicals that remain intact in the environment for long periods, become widely distributed geographically, accumulate in the fatty tissue of humans and wildlife, and have harmful impacts on human health and on the environment. Nigeria ratified the Stockholm Convention on Persistent Organic Pollutants (POPs) in May 2004. Nigeria has since taken steps to implement projects and programs to comply with the convention including the set-up of a Stockholm unit within the Federal Ministry of Environment, development and subsequent review of a National Implementation Plan (NIP) for Persistent Organic Pollutants (POPs), inventories of some POPs and POPs contaminated equipment, management of pesticides stockpiles, etc.

2.3.6 LONDON CONVENTION (LC) OF 1972: is an agreement to control pollution of the sea by dumping and to encourage regional agreements supplementary to the Convention. It is one of the first global conventions to protect the marine environment from human activities and has been in force since 1975. It covers the deliberate disposal at sea of wastes or other matter from vessels, aircraft, and platforms. It does not cover discharges from land-based sources such as pipes and outfalls, wastes generated incidental to normal operation of vessels, or placement of materials for purposes other than mere disposal, providing such disposal is not contrary to aims of the Convention. It entered into force in 1975 and in 1996, the "London Protocol" was agreed to further modernize the Convention and, eventually, replace it. Under the Protocol all dumping is prohibited, except for possibly acceptable wastes on the so-called "reverse list". The Protocol entered into force on 24 March 2006.

2.3.7 MARPOL ANNEX IV (1973/78): is the International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978. MARPOL 73/78 is one of the most important international marine environmental conventions that were developed by the International Maritime Organization in an effort to minimize pollution of the oceans and seas, including dumping, oil and air pollution. The objective of this convention is to preserve the marine environment in an attempt to completely eliminate pollution by oil and other harmful substances and to minimize accidental spillage of such substances. The original MARPOL was signed on 17 February 1973, but did not come into force at the signing date. The current convention is a combination of 1973 Convention and the 1978 Protocol. It entered into force on 2 October 1983. MARPOL Annex IV came into force on 22 September 2003, it introduces requirements to control pollution of the sea by sewage from ships.

These international and regional conventions, agreements and protocols signed to or ratified by Nigeria, as well as local statutes enacted by Nigeria are some of the laws regulating waste management in Nigeria.

2.3.8 MONTREAL PROTOCOL ON SUBSTANCES THAT DEplete THE OZONE LAYER (1987)

This is a Protocol to the Vienna Convention. The objective of the Protocol is to prescribe precautionary measures in order to equitably control and eventually eliminate total global emissions of ozone depleting substances (ODS). Parties (Nigeria inclusive) are required to reduce or eliminate their production and consumption of ODS identified in the Protocol, as well as to reduce and eliminate trade in these substances. Consumption is defined as production plus imports minus exports of controlled substances. The provisions of the Protocol include the requirement that the Parties to the Protocol base their future decisions on the current scientific, environmental, technical, and economic information that is assessed through panels drawn from the worldwide expert communities. The Convention has reporting obligations; Parties are to provide annual statistical data to the Secretariat of the Protocol on their production and consumption of controlled substances, as well as on their imports and exports of controlled substances. The protocol has since been ratified by Nigeria in November 4, 2003.

2.3.9 THE ROTTERDAM CONVENTION: Rotterdam Convention was adopted on 10 September 1998 by a conference of plenipotentiaries in Rotterdam, the Netherlands, it entered into force on 24 February 2004. It aims to promote shared responsibility and cooperative efforts among Parties in the international trade of certain hazardous chemicals in order to protect human health and the

environment from potential harm, it also aims to contribute to the environmentally sound use of those hazardous chemicals, by facilitating information exchange about their characteristics, by providing for a national decision-making process on their import and export and by disseminating these decisions to Parties. The convention covers pesticides and industrial chemicals that have been banned or severely restricted for health or environmental reasons by Parties and which have been notified by Parties for inclusion in the Prior Informed Consent (PIC) procedure.

2.3.10 MINAMATA CONVENTION: The Minamata Convention on Mercury is a global treaty to protect human health and the environment from the adverse effects of mercury was agreed during the fifth session of the intergovernmental negotiating committee on mercury in Geneva, Switzerland on 19 January, 2013 and adopted later that year on 10 October 2013 at a Conference of Plenipotentiaries, held in Kumamoto, Japan. The Convention draws attention to a global and ubiquitous metal that, while naturally occurring, has broad uses in everyday objects and is released to the atmosphere, soil and water from a variety of sources. Controlling the anthropogenic releases of mercury throughout its lifecycle has been a key factor in shaping the obligations under the Convention.

Major highlights of the Convention include a ban on new mercury mines, phase-out of existing ones, the phase-out and phase down of mercury use in a number of products and processes, control measures on emissions to air and on releases to land and water, and the regulation of the informal sector of artisanal and small-scale gold mining. The Convention addresses the interim storage of mercury and its disposal once it becomes waste, sites contaminated by mercury as well as health issues. Nigeria deposited its instrument of ratification on February 1, 2018, thereby becoming the 88th Party to the convention and has since adopted the provisions of the Convention.

2.3.11 THE STRATEGIC APPROACH TO INTERNATIONAL CHEMICALS MANAGEMENT (SAICM):

The First International Conference on Chemicals Management (ICCM1) adopted the SAICM on 6 February 2006 in Dubai, the SAICM is a policy framework to promote chemical safety around the world. The SAICM is a voluntary initiative to help countries manage chemicals within their borders to reduce the harmful impact of chemicals on human health and the environment. SAICM overall objective is the achievement of the sound management of chemicals throughout their life cycle so

that by the year 2020, chemicals are produced and used in ways that minimize significant adverse impacts on the environment and human health. It does not affect the interpretation or application of rights and obligations that governments have undertaken in binding international agreements.

The SAICM also aims to promote appropriate governance of chemicals through actions such as domestic enforcement of laws, coordination between relevant departments that deal with chemicals, and inclusion of a variety of stakeholders, such as civil society, in domestic processes. The scope of SAICM covers agricultural and industrial chemicals throughout their life-cycle, but explicitly excludes products such as food additives and pharmaceuticals that are regulated by a domestic food or pharmaceutical authority.

P A R T 2**3** ARTICULATION OF SOLID
WASTE MANAGEMENT POLICY**3.1 POLICY STATEMENT**

Solid waste shall be harnessed as a resource to promote economic growth and managed as to improve the quality of human and environmental health.

3.2 VISION

“An environment that is healthy and safe through implementation of environmentally sound and ethical solid waste management system that will be a wealth generation resource and job creation vehicle”

3.3 POLICY JUSTIFICATION ENVIRONMENTAL HEALTH AND SAFETY

1. To eliminate open dumping of refuse and other unsanitary methods of refuse disposal in the country and thus improve public health, environmental sanitation, aesthetics and reduce environmental pollution.
2. Reduce siltation and blockages to drainage systems and watercourses and in doing so reduce flooding.
3. Eliminate/reduce indiscriminate dumping of wastes in public places especially markets and motor parks through the provision of modern and effective waste management systems.

HUMAN HEALTH AND SAFETY

4. Improve sanitation, public health, safety, and reduce markedly communicable diseases associated with improper waste management (cholera, typhoid, diarrhea, malaria, etc.), and reduce the breeding of pests and vectors of diseases like rodents, mosquitoes and other insects, snakes and other reptiles, etc.

INVESTMENT AND MANUFACTURING SECTOR GROWTH

5. A well planned and implemented integrated solid waste management system would encourage manufacturing and production businesses to a shift towards resource efficiency, less pollution and waste generation methodologies in their production processes.
6. Partnership business models created between government and private enterprises (PPP arrangements) in developing comprehensive waste management programs which would utilize waste as a resource, create employment opportunities, attract investments, improve national income base, while ensuring sound waste management and an improved quality of life for the populace as well as research and development.
7. A major industry including SMEs created from a properly planned and managed SWM programme with the “best environmental practices” in place and utilizing the “best available technology” options. This will integrate and improve the capacity and techniques for waste collection and management of an already existing informal sector (waste scavengers), develop a platform to embed them and create new employment opportunities and growth of national income.

3.4 POLICY GOALS

Effective implementation of the National Policy on Solid Waste management will be aligned along the following overarching goals:

1. Waste shall be managed in a manner that will enhance conservation of natural resources and protect the environment and public health from its harmful impacts.
2. Preference will be to first reduce waste generation, secondly to utilize generated wastes for beneficial purposes and finally disposal of non-beneficial waste in an environmentally sound manner.
3. Establish Solid Waste management practices and services, in line with “Best Environmental Practices (BET)” and, “Best Available Technology (BAT)” principles.
4. Reduce potentially hazardous content of wastes by adopting consistent, safe and accountable waste reduction, segregation, reuse, recovery, recycling, collection, storage, transport, treatment and disposal methods.

5. Promote global, regional, national, inter-governmental and cooperative governance for sustainable and sound SWM.
6. Delineate roles and responsibilities of the public sector, the private sector, and individuals in solid waste management and aim at harnessing the capacities of all to achieve best practices in SWM for the country.
7. Encourage a participatory approach that involves all stakeholders, including communities CBOs', NGOs' and relevant MDAs at Federal, State, and LG levels.
8. Manage waste in a cost-effective manner that maximizes socio-economic and environmental benefits and minimizes long-term financial, environmental and health liabilities for citizens, businesses and taxpayers.
9. Recognize, encourage and facilitate broad-based markets for recycled materials as secondary resource for industries and other productive activities.
10. Facilitate efficiency and effectiveness of local markets that can be targeted for waste and recovered resources, utilization, and as much as possible utilizing indigenous technology and innovation whenever feasible.
11. Establish compliance (monitoring, evaluation and enforcement) measures to ensure the attainment of set goals and objectives

3.5 POLICY OBJECTIVES

The aim of this policy document is to provide a guide for efficient and sustainable Solid Waste Management in Nigeria along the following objectives:

1. Develop an integrated, coordinated, environmentally sound, efficient, safe, and economically sustainable Solid Waste Management system.
2. Provide a national direction on Solid Waste Management for the Federal, States, Local governments, private sector and all stakeholders.
3. Promote a healthy and aesthetically satisfactory environment by ensuring effective, sustainable, safe and sanitary Solid Waste Management.
4. Provide necessary guidance to policy and decision makers regarding effective waste management options, technologies and practices best suited for the nation in line with best global practices and in tune with the “waste management hierarchy”.
5. Establish an institutional framework capable of ensuring an efficient national waste management system.
6. Provide a basis for integrated solid waste management legal framework to regulate solid waste generation and waste management service delivery.
7. Ensure safe disposal of domestic, commercial and industrial solid wastes in order to

adequately protect public health during and after collection, storage, transportation, treatment and final disposal.

8. Create an enabling environment for waste reduction, sorting at source, reuse, recycling and conversion to energy through incentives.
9. Facilitate cost and resource recovery in waste management investment and ensure projects replication and sustainability.
10. Maintain adequate and regular waste management services at affordable cost.
11. Institute cost recovery mechanisms and profit-making opportunities in waste management schemes so as to facilitate private sector participation with a view to generating employment opportunities, and thus act as a poverty reduction tool.

3.6 APPLICABILITY

This policy does not apply to specialized waste categories such as hazardous solid wastes that are expected to have their own specialized policy framework, which may then be integrated into a compendium of policies on waste management.

3.7 APPLICABLE PRINCIPLES

Strategic development of the National Policy on Solid Waste Management is guided by a set of principles that shall be upheld at all levels of development and execution. Solid Wastes in Nigeria shall be managed in accordance with the following key principles in establishing sustainable approaches and in implementing this policy;

3.7.1 DUTY OF CARE - any person(s) or organization handling or managing solid wastes, is ethically responsible for using utmost care in ensuring that waste is managed responsibly so as to avoid acts or omissions (which can be reasonably foreseen) that are likely to cause any harm to others or the environment. All persons required to handle/dispose waste shall be adequately equipped and trained in safe procedures for dealing with all waste types/categories.

3.7.2 PROXIMITY PRINCIPLE AND SELF SUFFICIENCY - refers to the treatment or disposal of waste as near as possible to the point where it is generated. Local planning authorities and businesses shall apply the proximity principle when considering the requirements for, and location of, waste management facilities. This approach helps avoid the adverse environmental impacts of unnecessary transport and the imposition of waste on areas where it was not generated.

3.7.3 POLLUTER PAYS PRINCIPLE (PPP) - an environmental policy principle, which requires that the costs (legally and financially) of pollution inflicted on the natural environment be borne by those who cause it (waste generator). Through the internalization of resources costs and environmental externalities into the economic sphere, the PPP seeks to promote economic efficiency and environmental protection by encouraging producers to use scarce environmental resources more efficiently, to reduce waste and to increase possibilities for reuse and recycling.

3.7.4 EXTENDED PRODUCER RESPONSIBILITY PRINCIPLE - an environmental policy approach in which the producer's responsibility for reducing environmental impact and managing its product is extended across the whole life cycle of the product, from selection of materials and design to its end-of-life, and especially for their take-back, recycling and disposal. The overall objectives cover integration of environmental costs; improved waste management; reduction of disposal quantum and costs; reduction of burden on municipalities; design of environmentally sound product.

3.7.5 THE PRECAUTIONARY PRINCIPLE - Environmental management rules that if a threat of serious or irreversible damage to the environment or human health exists, a lack of full scientific knowledge about the situation should not be allowed to delay containment or remedial steps if the balance of potential costs and benefits justifies enacting them. In other words, 'prevention is better than cure'. All wastes are assumed hazardous until shown that it is safe. This is to ensure environmental, health and safety protection.

3.7.6 SUSTAINABLE DEVELOPMENT - to key in with the objectives of sustainable development, which is development that meets the need of the present generation without compromising the ability for future generations to meet their own needs and ensuring management processes and practices that have lasting positive impacts and minimized negative impacts on health and the environment.

3.7.7 SEPARATION AT SOURCE - refers to the practice of setting aside post-consumer materials and household goods so that they do not enter mixed waste streams. The purposes are for recycling, reuse or improved waste management. Goods and materials usually diverted from domestic waste streams by source separation include: Reusable items (clothing, utensils and appliances, bottles and glass materials, books and magazines); materials which are usually regarded by the primary consumer as wastes (newspapers, scrap paper, plastics, cans and containers); Organic matter (food wastes, organic residues and garden wastes); toxic and

hazardous wastes that are dangerous in landfills (biomedical items and pressurized cans, batteries, etc).

Organized waste separation at source shall be mandatory and supported by regulations, thus improving the rate of recycling and reducing emissions/pollutions from waste.

3.7.8 LIFE CYCLE PRINCIPLES OR CRADLE TO GRAVE - is the full "Life Cycle Assessment" from resource extraction ('cradle') to use phase and disposal phase ('grave'). It ensures sound management of the environmental impacts associated with all the stages of a product's life from raw material extraction through materials processing, manufacture, distribution, use, repair and maintenance, reuse and recycling, waste treatment and disposal.

3.7.9 AFFORDABILITY - environmental sustainability should be affordable and convenient to practice. A major issue militating against effective solid waste management by homes and organizations is its economic affordability. Provision of waste management services shall be affordable to Nigerian citizens.

3.7.10 ACCESSIBILITY - the Solid Waste Management services shall be progressively extended to reach all communities in Nigeria.

3.7.11 GLOBAL CITIZENSHIP - the impacts of some wastes, such as those that have transboundary movement are not confined to Nigeria. This principle recognizes national responsibility to consider global consequences of actions in generating, managing, treating and disposing of wastes.

3.7.12 COMMUNITY PARTICIPATION - the active involvement and participation of communities during conception, planning and implementation of solid waste management programmes, projects and services will be essential for the sustainability of the programme.

3.7.13 STAKEHOLDER COLLABORATION OR COOPERATIVE GOVERNANCE - all stakeholders (communities, CBOs, NGOs, Policy makers, Solid waste management agencies, manufacturers and industry, all waste generators, etc.), at National, State and Local government levels shall be consulted and involved in the management of solid waste.

3.8 EXEMPTIONS

There presently exist National Healthcare Waste Management (2013), which has been approved and Agricultural Waste Management (2012) Policies which is in the processes of being adopted. These documents are expected to be in line with and augment this National Policy on Solid Wastes Management.

4 INSTITUTIONAL FRAMEWORK AND RESPONSIBILITIES

The legal, administrative and regulatory guidelines for achieving coordination on the overall goals and primary objectives for managing solid waste are presented below:

- Policy and legislative framework
- Institutional/organizational arrangements
- Human resources

4.1 POLICY AND LEGISLATIVE FRAMEWORK

The Federal Government of Nigeria is charged with establishing institutional and legal frameworks for solid waste management. The policy and legislative framework for solid waste management encompasses the executive, legislative and judiciary at the Federal, State and Local Governments down to communities' structure. This policy shall cascade as follows:

THE (FEDERAL) LEGISLATURE

The institutional framework within the legislature responsible for policy and regulatory matters on solid waste and the environment in general are: The Senate Committee on the Environment and Ecology; and, The House Committee on the Environment; at the Federal level. Both committees play important roles:

4.1.1 THE ROLE OF THE (FEDERAL) LEGISLATURE IN SOLID WASTE MANAGEMENT

The Legislature shall enact appropriate legislation that will;

1. Foster successful implementation of the “Policy Guidelines” and “Action Plans” for a sustainable and effective management of solid waste within all the territory of Nigeria.
2. Ensure the inclusion of SWM in the National Development Agenda of the Country.

3. Regulate the design, establishment, and performance standards for landfills and all solid waste management technologies to be utilized within the country.
4. Prevent the indiscriminate disposal of solid wastes into and onto land.
5. Prevent the indiscriminate disposal of solid wastes into water bodies.
6. Ensure that appropriate assessment is carried out on SWM facilities before commencement of operation and at defined time periods throughout the life of the facility.
7. Incorporate applicable principles and domesticate appropriate international conventions, protocols and treaties into solid waste management laws and management practices within the country.
8. Focus strongly on environmental and solid waste data procurement, storage, and management.
9. Review old laws and regulations and adopt new regulations that will make SWM programs achievable.
10. Review and reform existing national/state legislations and regulations relating to SWM in order to create a legislative framework which gives legal effect to this Policy, and facilitates a comprehensive, integrated and sustainable approach to SWM.
11. Ensure SWM program evaluation and long-term priorities settings are made and achievable.

STATE AND L.G LEGISLATURE

1. The State and L.G legislatures at their individual levels of governance shall have the right to introduce more stringent legislations in their areas of jurisdiction, but at all times standards must not be lower than that stipulated at the Federal level.
2. Shall reserve the right to add, delete or change solid waste management taxes and fees to enforce scale up of Waste Management activities. Legislative discretion is however required to ensure the burden of Waste taxes is not too high as to become a dis-incentive to effective and sustainable SWM.

THE JUDICIARY

The judiciary system shall be responsible for the interpretation of principles, protocols, rules and legislations, and the trial of SWM legislations defaulters.

4.1.2 THE ROLE OF THE JUDICIARY IN SOLID WASTE MANAGEMENT

The judiciary shall:

1. Have jurisdiction and power over all Solid Waste matters specified under any environmental protection law, regulations or sanitation and waste management laws of the country (Federal, State and Local Government levels)
2. Provide mechanisms for resolution of solid waste jurisdiction and management concerns between different tiers of government, public institutions, private agencies and individuals.
3. Establish specialized tribunals for solid waste management issues, as undertaken in other areas of national life such as with trade or labour disputes.
4. Provide public access to solid waste management dispute resolution and remedy
5. Provide solid waste management dispute resolution mechanisms, public interest litigation protocols, class action legal processes and the ability to represent and protect the interest of future generations.
6. Be guided on environmental sentencing information

THE APEX ORGANISATION IN SOLID WASTE POLICIES AND REGULATIONS

The apex organisation responsible for the articulation of policy regulations and national guidelines on solid waste management is the Federal Ministry of Environment (FMEnv)

4.1.3 THE FEDERAL MINISTRY OF ENVIRONMENT

The FMEnv being the apex organisation responsible for the articulation of policy regulations and “benchmark” guidelines for solid waste management in Nigeria, shall have the following responsibilities:

1. Prepare and publish a comprehensive “National Solid Waste Management Policy”, which addresses all key areas of performance for solid waste management.
2. Prepare product related guidelines for managing certain product- related, hazardous and difficult waste streams which pose significant risks to health and/or the environment, or which can cause a nuisance or have properties that require extra care in handling and disposal.
3. Register Solid Waste Management facilities that require Environmental Impact Assessment (EIA) certification and Ensure that Environmental and Social Impact

Assessment studies and all other necessary Environmental, Social and Health Safeguards studies are carried out prior to the establishment of solid wastes management facilities, and that regular technical and environmental assessments and monitoring are carried out to ensure that the facilities function in optimal efficiency as not to cause environmental and health pollution throughout the entire life cycle of the facility.

4. Accredite and register environmental consultants or endorse an accreditation body to perform this function.
5. Execute a general “duty of care” regime on any person who imports, produces, carries, keeps, treats or disposes of waste; or, acts as a broker, has control of waste; and publish a detailed statutory code of practice on the responsibilities and actions required to comply with such “duty of care”.
6. Ensure all States and local government policies, regulations and by-laws relating to SWM are aligned and harmonized with national policies, goals, legislations and regulations.
7. Review and, where necessary, increase penalties for “non-compliance” to reflect the nature of the offences and potential harm caused, and to create an appropriate deterrence.
8. Actively promote collaboration between policy and regulatory agencies concerned with SWM at all tiers of governance, and provide sufficient resources and powers to tackle waste dumping, littering and other illegal activities effectively.
9. Establish criteria and guidelines, and implement a programme, for annual inspections of all licensed waste management facilities.

4.2 INSTITUTIONAL/ORGANISATIONAL ARRANGEMENTS

This policy is for all established Federal, State and Local institutions down to the community level. A well-articulated institutional framework for SWM would facilitate coordinative and collaborative relationships among stakeholders. The enactment of this policy will enhance and provide a

backbone for a robust and enduring institutional and legal framework for solid waste management in Nigeria. The policy will be effectuated at the national level and cascaded down to all other levels of Governance. The FMEnv shall ensure the implementation of this policy as a minimum requirement across the country, and provide direction and basic guidelines for solid waste management to the States through the State Ministries of Environment.

The institutional framework for SWM in Nigeria:

- a) Federal Level Institutions: Federal Government of Nigeria (Executive and Legislative), Federal Ministry of Environment (lead agency overseeing implementation of National Policy on SWM), Relevant Stakeholder Ministries, Departments and Agencies (MDAs)
- b) State Level Institutions: State Government, State Ministries of Environment, State Waste Management Authorities, State Environmental Protection Agencies/Boards, Stakeholder MDAs' at States level
- c) Local Government Institutions: L.G Authority, Environmental Health Departments in LGAs',
- d) Community Level Institutions: Town Unions, Ruler-ship institutions, Age Grades', CBOs' NGOs', etc.,
- e) Private Sector Participants: Waste Management firms, Waste "Scavengers", Transportation companies, All Waste Generators (Industries, Manufacturers, Hotels, Educational institutions, etc.)
- f) Civil Society Organizations: CBOs/NGOs
- g) International Organisations/Donor Agencies
- h) All Waste Generators Including Households
- l) Public and Private Places

4.3 INSTITUTIONAL ROLES AND RESPONSIBILITIES

The guiding principles for assigning institutional roles and responsibilities include:

- a) Decentralization in planning and implementation
- b) Sustainability (effective financial and organizational structure)
- c) Comprehensive system to deal with accumulations and daily generated waste
- d) Building of infrastructure and prioritizing infrastructure maintenance
- e) Making use of the existing local experience, building on existing efforts and available resources
- f) Increasing the level of awareness
- g) Data acquisition and management
- h) Synergy

THE EXECUTIVE AND LEGISLATIVE

The Senate Committee on Environment and House Committee on Environment are institutionally responsible for legislating and making of laws guiding effective and sustainable waste management practices in Nigeria.

FEDERAL GOVERNMENT

4.3.1 THE FEDERAL EXECUTIVE AND FEDERAL LEGISLATURE

Shall:

1. Have the overarching responsibility for ensuring effective solid waste management sector performance and coordination
2. Provide guidance to the FMEnv on matters relating to solid waste management and the environment as a whole
3. Provide a platform for liaisons between the FMEnv and the Executive, SWM Stakeholders, and the Executive and Legislative institutions

4.3.2 THE FEDERAL GOVERNMENT OF NIGERIA (FGN)

The Federal Government of Nigeria through the FMEnv is charged with establishing institutional frameworks for solid waste management

1. The FGN shall empower organizations at the Federal, State and Local government levels with the necessary authority, powers and capabilities for effective and sustainable solid waste management
2. The FGN shall make budgetary allocations and approvals for ensuring and assisting States and LG Authorities implement effective solid waste management in Nigeria.
3. Set minimum standards and guidelines for SWM in Nigeria and ensure that they are applied and implemented across the country as a minimum standard.
4. Participate in developing, ratification and domestication of international legislations, conventions, protocols, treaties, and principles on SWM and ensure their application and implementation in the country.

4.3.3 FEDERAL MINISTRIES, DEPARTMENTS AND AGENCIES

1. The ministries and agencies at the federal level including the Federal Ministry of Environment (FMEnv), and National Environmental Standards and Regulation Enforcement Agency (NESREA), shall provide guidance to the State governments through the State Ministries of Environment and any other relevant ministry, agencies and parastatals to execute their solid waste management duties.

2. These agencies shall be responsible for the provision of guidelines and/or capacity building measures in the field of administration, financial management, technical systems and environmental protection.

4.3.4 FEDERAL MINISTRY OF ENVIRONMENT

The FMEnv shall:

1. Review and update the “National Solid Waste Management Policy” every 5 years
2. Support and ensure that State and Local governments have the authority, power, technical and personnel capacity to effectively manage solid waste.
3. Prepare a Solid Waste Management Strategy and Master Plan as a national blue print for effective Solid Waste Management and ensure its application and implementation across all sectors of activities that generate or manage solid wastes in the country.
4. Promote a healthy, safe and aesthetically satisfactory environment by ensuring effective, sanitary and sustainable solid waste management, including encouraging activities that promote waste minimization, sorting/segregation at source, re-use, recycling and recovery.
5. Provide or source for funds for programmes development, specialized studies and capacity building on Solid Waste Management including encouragement of and funding of research works in educational institutions.
6. Initiate relevant programmes and provide environmental education and awareness for improved Solid Waste Management practices among critical stakeholders and the public.
7. Develop and circulate approved standards for technology and equipment procurement, provision and maintenance for the Solid Waste Management industry.
8. Establish a national Management Information System (MIS)/data bank on Solid Waste Management to aid proper planning and development of schemes and projects in the solid waste management sector.
9. Register Solid Waste Management facilities that require EIA and other Environmental, Social and Health Safeguards certification.
10. Accredite environmental consultants.
11. Solve cross-jurisdictional issues between government agencies and establish appropriate forms of association between metropolitan areas with respect to waste management

12. Have overall responsibility and oversight on issues to do with the Basel Convention on the Control of trans-boundary Movements of Hazardous Wastes and their Disposal (and all other international conventions, treaties, and protocols relevant to solid wastes management to which Nigeria is a signatory), so as to ensure non-dumping of wastes by other nations in the country, effective, safe and sustainable wastes management and thus protect national health and the environment.
13. Develop, set and circulate minimum standards with regards to technology, personnel and duty-of-care responsibilities for public and private sector participants in Solid Waste Management services and ensure their implementation.
14. Encourage local, regional and national NGOs, CBOs and CDAs to participate in diagnosing waste management problems and proffer solutions and participate in solutions and projects implementations.
15. Assist in development of technical and financial capacity for public and private sector agencies and participants in all areas of the Solid Waste Management chain.
16. Develop and maintain through its departments and agencies especially the “Department of Pollution Control & Environmental Health” and NESREA a robust Monitoring and Evaluation system so as to ensure a sustainable, effective, and continually improving solid waste management system in the country.
17. Encourage the establishment of environmental groups at all educational levels and in public and private institutions and organizations.
18. Improve on existing, and introduce new incentives to encourage investments and private sector participation in the waste management sector as a whole and solid waste management sector in particular.
19. Organize tracking programs identifying NGOs' and CBOs' involved in environmental works in general, and solid waste management in particular and assist with funding and building their capacities.
20. Seek collaboration with international donor agencies to assist public and private institutions, organizations and persons' in assessing funding to aid research works on waste management, and in development and expansion of waste management schemes and programs.
21. Monitoring and performance evaluation for all waste management activities in the country.
22. Domesticating all global treaties on waste management issues.

23. Provision of minimum standard for the establishment of waste management infrastructures in the country.

4.3.5 NATIONAL ENVIRONMENTAL STANDARDS AND REGULATIONS ENFORCEMENT AGENCY (NESREA) - NESREA ACT 2007:

As a regulatory and enforcement agency under the Federal Ministry of Environment, NESREA shall;

1. Assist the Federal and State governments to monitor and enforce the implementation of this Policy.
2. Enforce all environmental laws, guidelines, policies, standards and regulations in Nigeria in relation to SWM.
3. Domesticated provisions of international agreements, protocols, conventions and the treaties on the environment as SWM is concerned.
4. Monitor and evaluate all activities around the country that may impact negatively on the environment including waste management practices to ensure they align with “international best practices” and national policy for achieving sustainable development.
5. Promote the conservation and sustainable development related goals for SWM programmes and ensure health and environmental protection considerations in all related activities around the country.

STATE GOVERNMENTS

4.3.6 STATE GOVERNMENTS

The State Governments shall:

1. Establish special purpose technical agencies for training on solid waste management programmes.
2. Provide land for siting waste management facilities.

The State Governments through the States' Ministry of Environment shall:

3. Prepare solid waste management master plans for the State
4. Provide infrastructure for solid waste management
5. Set up a State Waste Management Agency
6. Define strategies for:
 - a) Financing the solid waste management system in the State (public, private, customer-service fees, etc.)
 - b) Encourage participation of private sector in SWM

- c) Encourage social inclusion (in public awareness, recycling and other related services)
- d) Implementing action and penalties towards waste management defaulters
- 7. Create incentive packages for Waste Management personnel within the state and ensure Occupational Health and Safety Measures are always adhered to within the system

4.3.7 STATE MINISTRIES OF ENVIRONMENT

The State Ministries of Environment shall:

1. Ensure the provision of effective and technologically sound sanitary and waste management amenities within the State
2. Ensure that all Environmental, Social, Health and Safety safeguard requirements are met prior to the establishment of a solid waste management facility and that effective and adequate monitoring and evaluation of technical and personnel performances are done on a regular basis as to ensure best international standards of performance throughout the life cycle of the facility.
3. Make by-laws to regulate activities taking place within its territory, aimed at maintaining the health, well-being and safety of its inhabitants, environmental protection and pollution prevention, improved aesthetic value of the natural environment, and preventing nuisances, including noise pollution.
4. Provide technical support to the LGAs through training and manpower development programmes for capacity building and institutional strengthening
5. Provide approved sanitary engineered landfills and rehabilitate/upgrade existing dumpsites with adequate fencing and pollution prevention infrastructure. Where necessary, relocate or close existing dumpsites.
6. Ensure development of proper sorting at source and segregation of different constituents of the waste stream and thus, encourage recovery, reuse and recycling activities.
7. Create an enabling environment (including the granting of tax incentives) that will attract private sector participants and investors into the different aspects (collection, transport, sorting, storage, recycling, waste-to-wealth schemes including energy production, etc.) of the solid waste management businesses.
8. Develop action plans based on strategy options of the state to include:

- a) Development of effective waste sorting methodologies and incentives.
- b) Development of collection and transfer framework for generated waste in urban and rural areas and provision of appropriate equipment (utilizing whenever feasible appropriate local technological inputs).
- c) Provide adequate and effective waste treatment facilities (utilizing whenever feasible, appropriate local technological inputs) in the urban and rural areas.
- d) Provide, encourage or approve environmentally sound and sustainable final disposal facilities and equipment in (urban and rural).
- e) Create awareness on, and encourage waste minimization techniques in manufacturing processes, procurements, products utilization and waste management processes so as to reduce markedly the amount of waste to be sent to treatment and final disposal.
- f) Create awareness on and encourage the implementation of the “5Rs” strategy in SWM as elucidated in this policy document.
- g) Create innovative mechanisms to ensure participation and collaboration of NGOs', CBOs' and other voluntary organizations and individuals in the solid waste management process.
- h) Develop mechanisms and provide equipment and trained personnel to enhance data collection on SW generation and characterization. This will go a long way in assisting with planning for effective and sustainable SWM facilities provision.
- l) Collate data on solid waste management activities from the various players in the state and local governments and transmit same to relevant Federal agency.

4.3.8 STATE ENVIRONMENTAL PROTECTION AGENCIES

The State Environmental Protection Agencies shall:

1. Develop State waste management policy, guidelines and plans using the national instrument as basis and minimum standards.
2. Regulate solid waste management in the states.
3. 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.

4. Ensure the collection of municipal liquid and solid wastes and design and Implement sanitation and waste management schemes for the State.
5. Ensure effective monitoring and evaluation of solid waste management including regular and routine inspection of waste management equipment and facilities utilised by Waste Management Authorities, other public agencies, and the private sector waste management participants.

4.3.9 STATE WASTE MANAGEMENT AUTHORITIES

The State Waste Management Authority shall:

1. Perform or approve the collection and disposal of solid waste and ensure provision of commercial waste services to the State and Local Governments.
2. Lease contractors or franchises to carry out waste collection in the States. However, in all cases, the agency shall maintain an in-house capacity to provide at least 20% of services directly.
3. Have the primary responsibility to manage waste management services including the sale of recovered components of waste, and design, establishment and management of waste treatment and disposal facilities.
4. Liaise with the State Ministry of Environment to develop and enforce waste management policy, guidelines and plan including the implementation and enforcement of penalties.
5. Conduct research and apply findings in the scale-up/improvement of SWM activities.
6. Develop methodologies for collection of data on SW generation (quantities and characterization) and establish a State Solid Waste Data Base. This will be utilised for planning purposes, development of SW management schemes, and as part of contribution to the national database and MIS.
7. Develop and conduct monitoring, evaluation and auditing processes so as to ensure efficiency and sustainability of SWM services.
8. Develop innovative ways to create awareness on sanitation and SWM among the various stakeholder groups within the State including the organization of public awareness campaigns.
9. Develop and manage business schemes built around waste management programmes with a view to recover costs of services provision and developing an

ever-improving Solid Waste Management scheme in the State.

10. Engage, coordinate and evaluate the activities of private sector participants in SWM and create environments and incentives to attract quality investors into the provision of services in different sectors of the waste management chain.
11. Create awareness on sustainable SWM to different actors in the State.

LOCAL GOVERNMENT

4.3.10 LOCAL GOVERNMENT AUTHORITIES

Local Government Authorities shall:

1. Implement the Policy Guidelines on Solid Waste Management as a statutory obligation.
2. Prepare a 5-yearly solid waste management plan for the Local Government with guidance from National and State Solid Waste Management Plans.
3. Enact appropriate legislative instruments and establish necessary sanctions and enforcement mechanisms for efficient service delivery.
4. Enlist the services of the private sector and other Stakeholders (including development of PPP schemes) in Solid Waste Management.
5. Create licensing schemes and register all operators of facilities and services in the waste management sector.
6. Make adequate annual budgetary provisions for Solid Waste Management.
7. Recruit, train and retrain staff for efficient service delivery.
8. Create awareness and establish consultative fora with members of the public to build consensus on appropriate strategies for waste management.
9. Develop IEC materials on sanitation and solid waste management (including handling techniques) at the LGA level
10. Encourage local initiatives through working with and training local NGOs, CBOs, private organizations and individuals on issues concerning waste minimization, reuse, reduction and recycling and generate waste management programmes.
11. Develop mechanisms to attract private sector participation into the different sectors of the SWM businesses as a means not only to achieve a sustainable, sanitary and aesthetically satisfactory environment, but also, as an income and employment generation scheme for the populace.
12. Develop and implement empowerment programs for women around businesses in the waste management sector as they are the most influential segment of the

society that will positively influence and effect critical aspects of the waste management chain such as waste minimization, sorting at source, recovery and reuse, and ensure the teaching of sanitary and effective waste handling to the young and future generation.

PRIVATE SECTOR

4.3.11 PRIVATE SECTOR PLAYERS:

Shall;

1. Participate in solid waste management activities to include but not limited to waste collection, transportation, building and operation of treatment plants, waste recovery and recycling facilities, waste treatment and/or disposal facilities
2. Operate under licensing by applicable authorities (either State or LG)
3. Comply with the provisions of the National Policy, Guidelines and Plan on Solid Waste Management as a minimum requirement in all operations
4. Comply with the National Solid Waste Management vision to eliminate 'open dumping' and minimize landfilling of waste
5. Ensure "duty-of-care" obligations in all operations.
6. Develop and invest in innovative technologies and techniques for SWM and create wealth and employment from waste-to-wealth schemes.

The selection of private sector participants in Solid Waste Management shall be organised as follows in accordance with section 7.4 of this policy document.

4.3.12 WASTE GENERATORS (RESIDENCES, COMMUNITIES, BUSINESSES, ETC.):

Shall;

1. Play a major role in efficient waste management implementation especially by segregating, containerizing and labeling the different waste components at source of generation and making these easily accessible for collection by waste management agencies.
2. Adopt zero waste or waste minimization strategies.
3. Develop responsible and safe waste handling techniques and ensure that all waste generated are disposed of in a lawful and environmentally sound manner. This shall be guided by the following principles:
 - a) Ensuring that all waste generated within its premises are handed over to authorized/licensed waste collectors and managers.

- b) Ensure that waste does not pose any hazard or cause damage to third parties or their property.
- c) Ensure regular payment for all legal and prescribed fees for waste management services received.

4.3.13 PRODUCERS/MANUFACTURERS

Shall:

1. Be guided by the Extended Producer Responsibility (EPR) as stated in section 3.8.4.
2. EPR shall be extended to all those involved in the product chain (manufacturers, suppliers, retailers, consumers, and disposers of product waste).
3. Prioritise products and packages considering reusability and recyclability.
4. Take into consideration resource efficiency and cleaner production.
5. Periodically carry out waste audits of their facilities and processes according to the guidelines of the appropriate authorities (Federal or State)
6. Take into consideration product design for a circular economy

4.3.14 CIVIL SOCIETY ORGANIZATIONS, NON-GOVERNMENTAL ORGANIZATIONS (NGOS), COMMUNITY BASED ORGANIZATIONS (CBOs)

Shall;

1. Develop and implement programs which will promote much needed awareness and education, encourage source separation, enhanced door-to-door collection, encourage and demonstrate the utilization of wastes as raw materials, and generate more job opportunities in the area of waste management and environmental protection.
2. Act as intermediaries between government and the private sector. Likewise, provide technical assistance and capacity building for solid waste management operations. Complimentarily, help in building the capacity of community groups so as to play an active role in solid waste management by contributing in raising awareness of waste management problems.
3. Facilitate the formation of community-based organizations (CBOs), thereby opening channels of communication between CBOs' and government

authorities, raising CBO's voice in waste management planning and implementation processes.

4. Undertake grassroot mobilization to support appropriate waste management options.
5. Promote the adoption of waste separation and resource recovery at household and community levels.
6. Promote public enlightenment campaigns on appropriate strategies for waste storage, collection and disposal.

4.3.15 PUBLIC

Shall:

1. Adopt environmentally safe and sound practices.
2. Comply with national policies, legal and regulatory frameworks on Solid Waste Management.
3. Prioritize patronage of manufacturers, distributors and retailers of recycled goods and biodegradables.
4. Undertake sorting of recyclable components at source and dispose waste at designated sites
5. Segregate wastes and ensure their hygienic, environmentally sound and safe disposal.
6. Maintain wastes bins in homes.
7. Adopt, purchase and utilize technologies for converting biodegradable waste into energy resources (e.g. biogas).
8. Adopt the practice of utilizing domestic organic wastes for the purpose of producing compost, which in turn can be used to support livelihood activities such as gardening and small/medium scale agriculture.
9. Pay for Solid Waste Management services to ensure sustainability.
10. Play a major role in efficient Solid Waste Management implementation particularly with respect to minimization, segregation and storage.

4.3.16 INTERNATIONAL ORGANISATIONS/ DONOR AGENCIES:

Shall:

1. Provide or facilitate with finance mechanisms (loans, credits, grants, etc.) for the purpose of conceptualizing and implementing programs, projects and/or initiatives on solid waste management and also ensuring that these programs and projects are in line with current international best practices.

2. Register grants and loans with the Federal Ministry of Finance
3. Register projects requiring consultancy contracts or third-party agreements duly with the FMEnv
4. Undertake specific grassroots mobilization campaigns
5. Encourage ratifications to international conventions and treaties concerning SWM
6. Assist in capacity building at all levels, Federal, States and Local Governments.

4.3.17 HOUSEHOLDS:

Shall:

1. Make use of sanitary waste bins or disposable refuse bags for collection and storage of household wastes
2. Use sanitary waste bins of adequate capacity for quantum of waste generation which may be made of galvanized material or plastic and it shall be fitted with two handles and a well-fitting cover to prevent fly infestation and odour
3. Ensure that the bins are kept out of reach of children and domestic animals, to prevent spillage of refuse
4. Empty the waste bins into designated solid waste depots or engage the service of private/public sector waste collectors
5. Adopt waste segregation and sorting at source
6. Adopt appropriate colour codes for segregation or sorting of wastes components.
7. Pay for waste collection services

4.3.18 PUBLIC PLACES (MARKETS, SCHOOLS, GARAGES, HALLS ETC.):

Shall:

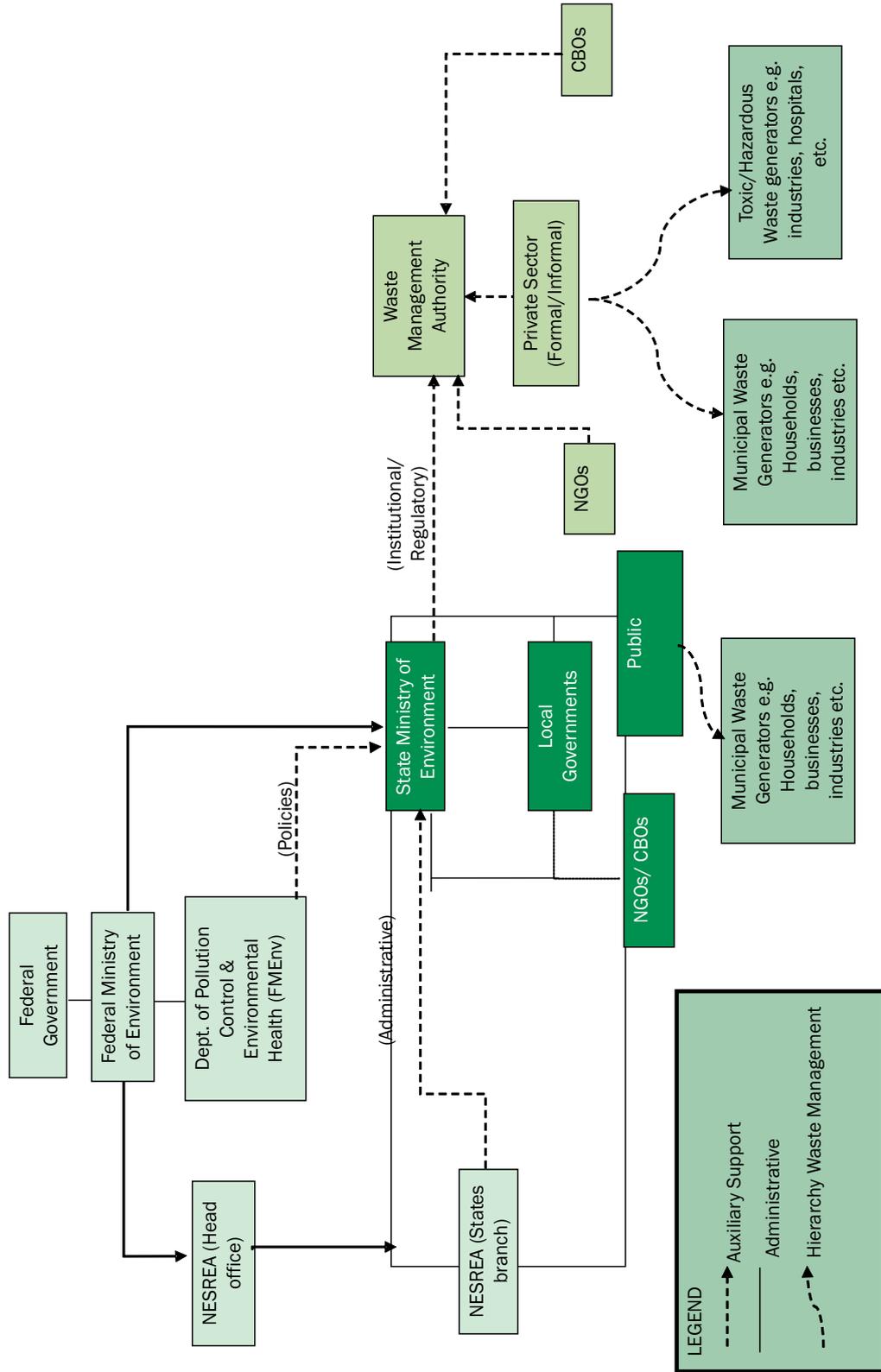
Ensure that mammoth bins are placed at strategic locations to accommodate the large volume of solid waste generated

4.3.19 ENVIRONMENTAL/WASTE MANAGEMENT RESEARCH INSTITUTES:

Shall:

1. Ensure solid waste management activities are designed to promote community involvement and education on environmental issues and problems.
2. Ensure that problems associated with municipal solid wastes are addressed.
3. Provide multimedia waste management approach to the solution of environmental problems and advance state of the art technologies and methods of solid waste management and pollution prevention including technology transfer.

4.4 INSTITUTIONAL STRUCTURE FOR SOLID WASTE MANAGEMENT IN NIGERIA



5 TECHNICAL GUIDELINES

Technical guidelines on the different aspects in the solid waste management stream articulating technology inputs, professional expertise and methodologies for efficient and sustainable solid waste management practises in-country should be developed and reviewed on a regular tenured basis (5years interval).

- Waste Generation,
- Segregation,
- Storage
- Collection
- Transportation
- Transfer Stations
- Treatment
- Disposal
- Data Availability, Monitoring & Evaluation, and Reporting

5.1 SEGREGATION, COLLECTION AND STORAGE

Efficient segregation, storage and collection of waste is a central goal of all waste management systems.

1. The Federal Ministry of Environment shall work with the State Ministries of Environment and Local Governments to give specifications for receptacles adequate for low and high-density residential areas, and industrial areas.
2. The State Ministries of Environment, States Waste Management boards and agencies shall put in place safe and secure collection schemes.
3. The State Ministries of Environment and Local governments shall develop and establish source separation schemes.
4. The state government shall conduct studies and categorize all settlements

according to their level of urbanization, size, function and economic base into urban, semi-urban and rural and receptacles and storage and collection facilities should be adequate for each category type.

5. In the choice of waste collection vehicles and equipment, emphasis shall be on optimizing vehicle and labour for improved productivity
6. The LGA shall determine the most efficient system of waste collection for each category and:
 - a) Set out the method of refuse pick,
 - b) Determine manpower and equipment needs,
 - c) Determine vehicle type and routing system
7. Waste management authorities shall introduce standardized waste storage bins but where this is not immediately possible, existing storage bins shall be made functional and safe
8. The states shall implement collection methods that take into account differences in districts of a city as indicated below:
 - a) Residential Area Collection method
 - b) Well planned, high income, low density areas (House-to-house)
 - c) Medium density residential layouts (Kerb side)
 - d) High density low income districts (Communal depots)
 - e) In case of communal depots, adequate numbers shall be provided within 200 to 250 meters walking distance to residences.
9. The choice of solid waste handling machine and equipment shall comply with the specifications approved by the Federal Ministry of Environment

5.2 SEGREGATION

1. A sorting and segregation system shall be implemented at all levels; this will ensure that the waste specific best-practice methods will be used for managing each waste component type.
2. Waste generators shall be responsible for correct waste segregation, independent of the organizational position of the generator ('Duty of care' principle);
3. Waste segregation shall be carried out as close as possible to the place of generation; segregation shall as much as possible take place at source (Proximity principle);
4. Segregation must be applied from the point of generation, through collection,

transport, storage and final disposal

5. Every place of waste generation will have the necessary collection/storage facility for the types of wastes that are generated at that place like bags, containers, receptacles, skips, waste depots, etc.
6. Recyclable waste shall be segregated at source, as well as biomedical waste and industrial waste, to prevent hazardous waste from being mixed with non-hazardous solid waste;
7. Segregated wastes shall not be mixed during transport and storage;
8. Correct segregation will be achieved through public awareness and rigorous training of all waste generators and waste managers/stakeholders in the solid waste sector

5.3 TRANSPORTATION

Intra-city and inter-city transportation of solid waste shall comply with the following guidelines:

1. The Federal Ministry of Environment shall put in place specifications for waste transportation vehicles in the country.
2. Choice of vehicles shall comply with set guidelines by the FMEnv on procurement with particular interest in integrating “local-content” initiatives in the manufacture and content of the vehicle.
3. All solid waste transport and management vehicles shall be covered to prevent waste littering and spread of disease.
4. Transport itinerary shall be planned and properly routed in a manner that will not encumber intra-city mobility.
5. All waste transporters must be registered and licensed by the relevant Local Government and State authorities.
6. All waste transporters must maintain a manifest of wastes received and delivered, as may be approved by appropriate government regulatory authorities.

5.4 TRANSFER STATIONS

1. Transfer stations shall be established for some metropolitan centers where:
 - a) Disposal sites cannot be located near the sources of solid waste generation.

- b) The responsibilities for waste management are separated and in the hands of different agencies.
- c) Labour and transportation costs are high
- d) Pressure on land is high

5.5 TREATMENT AND DISPOSAL

1. The FMEEnv shall mandate its regulatory agencies to implement anti-dumping legislations for solid waste. These laws shall be replicated at the State and Local government levels to suit their needs. Defined penalties shall be imposed on defaulters.
2. The government shall prohibit within an implementable time frame the open burning of household refuse.
3. The illegal dumping of wastes such as tyres, construction and demolition wastes, and chemicals shall be construed as criminal offences and appropriate sanctions/fines shall be imposed by the relevant authorities
4. Engineered sanitary landfills should be developed and located in line with town planning laws and zoning system where necessary.
5. Sanitary landfills shall not be located in close proximity to residential areas, schools, health facilities and other inhabited areas.

Other regulatory tools to be utilized by the Federal government in solid waste management include:

6. **Polluter Pays' Principle:** as far as possible, all costs of containing or eliminating pollution should be borne by those who cause pollution. Polluters shall be responsible for all costs of pollution prevention. These include direct capital costs of pollution abatement and costs associated with monitoring and enforcement. Producers of waste will bear the costs imposed for waste treatment and disposal in order to provide a fair system and one that discourages producers from generating waste.
7. **Extended Producer Responsibility Principle:** Producers share responsibility with consumers and government for minimising any environmental harm caused by waste that is generated from the production and use of their products. This responsibility includes contributing towards the provision of appropriate management systems for such waste. However, producers are not responsible for environmental harm which results from the use of their products in a manner that constitutes a breach of the general environmental duty of care

6 SUPPORTING IMPLEMENTATION STRATEGY

This “Implementation Strategy” provides a basis for the setting of priorities and for allocating resources accordingly. It is important to foster cooperation and develop management strategies among all the tiers of governance i.e., national, state and local government authorities.

TABLE 1: ADMINISTRATIVE AND REGULATORY FRAMEWORK TARGETS

TARGETS	TIMELINE	RESPONSIBILITY
Develop national solid waste management plan and strategy document	ST	FMEEnv
Accent the National Policy for approval	ST	FMEEnv
Enact laws from the SWM Policy	ST	Legislature (NASS)
Disseminate and adopt national policy at the Federal level	ST	FMEEnv
Disseminate and adopt national policy at the State level	ST	SMEnv
Disseminate and adopt national policy at the LGA	ST	LGA
Gather comprehensive data on solid waste and develop a harmonised database	ST	FMEEnv/SMEnv/LGA/ Industry Experts
Make budgetary approvals and allocations for SWM within the FMEEnv annual budget	ST	FGN/ FMEEnv/NASS
Enact penalties and sanctions for defaulters of SWM Laws, Legislations and Regulations and by-laws	ST	Judiciary
Capacity building at Federal level organisations	ST	FMEEnv
Prepare product related guidelines	ST	FMEEnv/NESREA
Register SWM facilities that require ESIA and other Safeguards Instruments certifications	MT	FMEEnv/SMEnv

TABLE 1: ADMINISTRATIVE AND REGULATORY FRAMEWORK TARGETS

TARGETS	TIMELINE	RESPONSIBILITY
Capacity building at State level organisations	ST	FMEEnv/SMEnv
Capacity building at the LGA		ST
Prepare a 5-year solid waste management plan BY the Local Governments	ST	LGA
Provide approved sanitary engineered landfills and rehabilitate/upgrade existing dumpsites	ST	LGA/ SWMA/ AEPB
Increase private sector participation in SWM by 25%	ST	FMEEnv/ SMEnv/ LGA
Increase recycling activities by 15%	MT	FMEEnv/ SMEnv/ LGA
Empower the role of women in solid waste management activities	ST	FMEEnv/ SMEnv/ LGA
Increase waste minimisation from households, organisations and manufacturers by 10%	MT	FMEEnv
Incorporate in law the 'Extended Producer Responsibility'	MT	Legislature/ FMEEnv
Develop national standards for recovery and re-use of selected special waste items	MT	FMEEnv/NESREA
Institute transboundary waste management laws	LT	Legislature/ FMEEnv

(Short Term (ST): 5 Years, Medium Term (MT): 5 - 10 years, Long Term (LT): 10-15 years

TABLE 2 : TECHNICAL TARGETS FOR SWM

TARGETS	TIMELINE	RESPONSIBILITY
Capacity building for waste management actors on solid waste categories and different handling techniques	ST	FMEEnv/Industry Experts
Set up certified receiving centres for hazardous wastes	MT	FMEEnv/ SEPA
Incorporate in law 'Generator Responsibility Schemes'	MT	Legislative/ FMEEnv
Institute disposal fees, levies and tariffs to address the 'product life cycle' of special bulk wastes	MT	FMEEnv/ SMEnv
Institute environmentally sustainable and safe solid waste storage centres	ST	AEPB/ SMEnv/LGA
Establish pilot projects for source separation schemes	ST	FMEEnv
Establish systems of solid waste collection for each type of settlement	ST	LGA/ SWMA
Set transportation guidelines for solid waste	ST	FMEEnv
Incorporate into law Anti-Dumping legislation	ST	Legislative/ FMEEnv
Incorporate into law open burning of waste legislation	ST	Legislative/ FMEEnv
Establish national data bank on Solid Waste Management for the whole country	ST	FMEEnv/ SMEnv/ SWMA/ LGA/ Industry Experts

(Short Term (ST): < 5 Years, Medium Term (MT): 5 - 10 years, Long Term (LT): 10-15 years

TABLE 3: OPERATIONAL TARGETS FOR SWM

TARGETS	TIMELINE	RESPONSIBILITY
Prioritise and operationalize the 5R's of waste management Generate principles for operating the 5R's	ST	FMEEnv/ SMEnv/LGA
Define incentives for waste generation reduction	MT	FMEEnv
Increase waste minimisation from households, organisations and manufacturers by 10%	MT	FMEEnv
Capacity building for artisans on waste recovery, repair, re-use, and recycle techniques	ST	LGA
Promote appropriate technologies for recycling of waste components	ST	FMEnv/ Industry Experts
Create sustainable market for recycled items		
Increase recycling activities by 15%	MT	FMEnv/ SMEnv/ LGA
Increase waste processing activities (repair, re-use, recycle, recover, composting) by 15%	ST	FMEnv/ SMEnv/ LGA
Develop and fabricate/ Import technologies for recovery of valuable parts from waste	MT	FMEnv/ Development Partners
Develop energy recovery mechanisms from organic waste – biogas, methanol recovery, ethanol recovery, waste to energy, etc.	ST	FMEnv/ Development Partners
Set regulations for incinerators to comply with safe environmental practices	ST	EPAs
Promote waste to wealth schemes	ST	FMEnv/ SMEnv/ LGA/ Development Partners
Promote waste to energy schemes	ST	FMEnv/ Development Partners

(Short Term (ST): < 5 Years, Medium Term (MT): 5 -10 years, Long Term (LT): 10-15 years)

TABLE 4: SUPPORTING IMPLEMENTATION STRATEGY TARGETS

TARGETS	TIMELINE	RESPONSIBILITY
Conduct human resources and training needs capacity assessment for Government organisations involved in solid waste management	ST	FMEnv
Establish national capacity training programme, technical and educational needs assessment at the Federal, State and Local Government levels	ST	FMEnv
In-house capacity developments for Federal, State and LGA levels organisations involved in waste management (should be optimised to at least 25%)	ST	FMEnv
Increase sector funding by at least 20% annually (Federal, State and LG levels)	ST	Federal Government of Nigeria
Determine licencing fee for each category of sector players in the WSM chain	MT	FMEnv

TABLE 4: SUPPORTING IMPLEMENTATION STRATEGY TARGETS

TARGETS	TIMELINE	RESPONSIBILITY
Develop guidelines for various categories of incentives for the sector	MT	FMEEnv/ SMEEnv
Develop actionable items on attainable incentives at the State/LG levels	MT	SMEEnv/LGA
Incorporate into law fines and levies for compliance with SWM	MT	Legislative/ FMEEnv
Increase sensitization on gender mainstreaming at all Levels	ST	FMEEnv
Prompt implementation of the 3 rd , 6 th and 12 th Sustainable Development Goals	ST	FMEEnv

(Short Term (ST): 5 Years, Medium Term (MT): 10 years, Long Term (LT): 10-15 years)

TABLE 5: IMPLEMENTATION, MONITORING AND REVIEW TARGETS

TARGETS	TIMELINE	RESPONSIBILITY
Disseminate and implement national policy at the Federal level	ST	FMEEnv
Disseminate and implement national policy at the State level	ST	SMEEnv
Disseminate and implement national policy at the LGA	ST	LGA
Develop key performance indicators for Monitoring, evaluation and enforcement of the national policy	ST	FMEEnv
Organise a platform at the local level where SWM related issues would be monitored and enforced	ST	Local Municipal Authorities, CBOs
Review policy every 5years to reflect realities	LT	FMEEnv

(Short Term (ST): 5 Years, Medium Term (MT): 10 years, Long Term (LT): 10-15 years)

6.1 SUPPORTING IMPLEMENTATION STRATEGY

Policy implementation will be achieved through the following strategies:

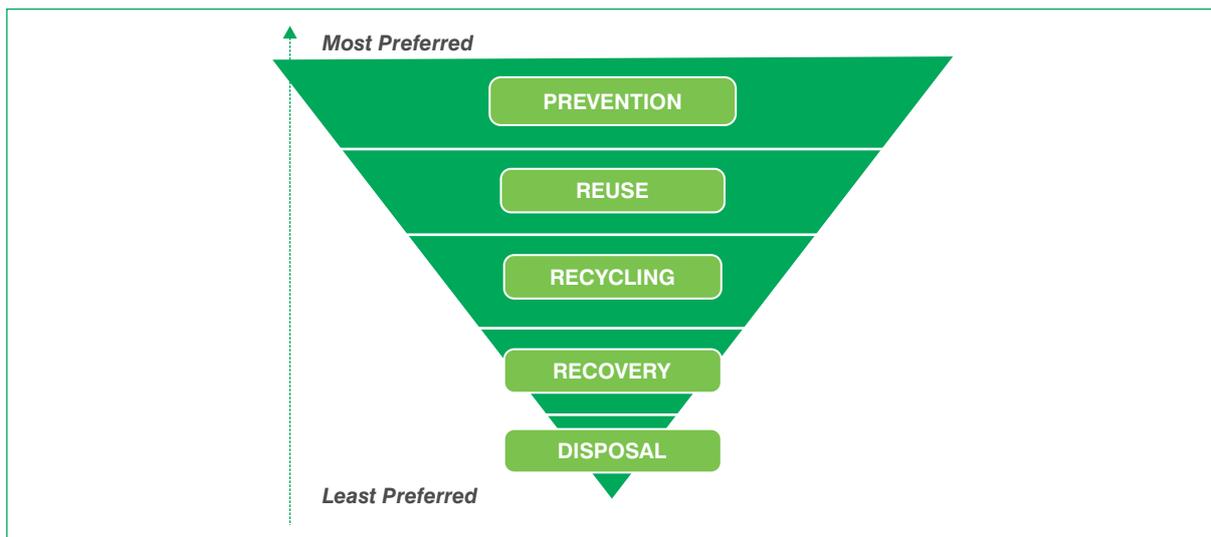
- Waste Management Hierarchy
- Technologies and Systems Application
- Capacity Building
- Public Enlightenment and Communication
- Public Private Partnerships
- Funding Mechanism
- Incentives
- Waste to Wealth Schemes

6.1.1 WASTE MANAGEMENT HIERARCHY

The waste management hierarchy is a framework that sets priorities for the efficient use of waste resources with a view to 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 in line with the Federal Government Gazette No. 5, Vol. 98. In the gazette, the 3R's of waste management was expanded to 5R's, namely: Reduce, Repair, Re-use, Recycle and Recover.

The waste management hierarchy to be adopted is depicted below:

WASTE MANAGEMENT HIERARCHY

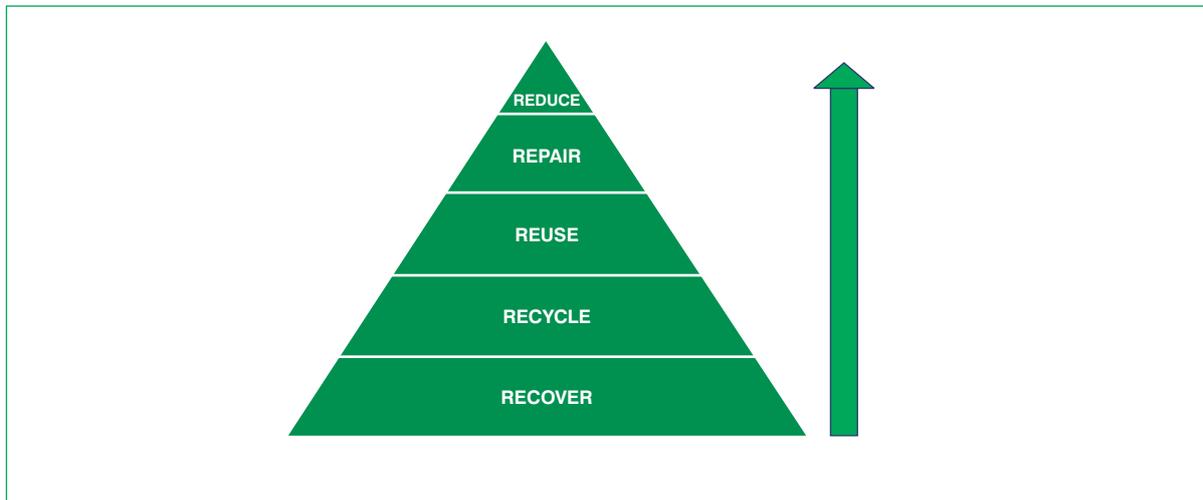


Source: UNEP (2011). *Towards a Green Economy*

1. This policy framework recognises the “waste management hierarchy”
2. Nigeria shall implement the “waste management hierarchy” at the Federal, State, Local government and community levels

FEDERAL GOVERNMENT OF NIGERIA 5R'S HIERARCHY

Waste management in Nigeria will fully follow the Federal Government of Nigeria '5R's hierarchy for MSW management



i. REDUCTION

Waste reduction entails deliberate attempts to achieve significant decrease in the quantum of waste produced/generated; decrease in the volume, weight and toxic level of waste before further processing and disposal. Accordingly,

1. The FMEnv shall launch an adoption campaign for the waste management hierarchy as defined or as may be modified over time.
2. Institutional actors (State authorities, LGAs, Civil Societies, etc.) shall promote waste minimization at household and community levels, through reduction at source, reuse, recycling and resource recovery.
3. Manufacturers shall collaborate with science and technology agencies in regional and national efforts to encourage product design to produce less waste.
4. Generation of waste shall be reduced through education of the general public and improved production processes by manufacturers.
5. The State/LG shall encourage a culture of valuing resources by making it easier for people and businesses to find out how to reduce their waste, products longevity, repair broken items, and enable reuse of items by others.
6. The FMEnv/ State ministries of environment shall encourage businesses to contribute to a more sustainable economy by building waste reduction into design, offering alternative business models and delivering new and improved products and services

7. Manufacturers shall imbibe production processes which shall ensure minimum toxic content and volume of material, and/or a longer useful life, thus generating less waste
8. Production and utilization of re-usable items shall be encouraged at all levels
9. The States and LG shall initiate laws on waste charging, this will decrease waste volumes and increase rate of waste avoidance and recycling
10. The Federal Government through the FMEEnv/ State/ LG shall provide incentives for, and remove barriers to, pollution prevention practices that reduce waste generation. This could be achieved through; regulatory benefits, technical and financial assistance, residential Pay-As-You-Throw disposal pricing, and publicly recognizing those who adopt appropriate practices
11. The State government shall impose shared responsibility among manufacturers, handlers and end-users

ii. REPAIR

This entails sorting through waste to separate out broken/damaged/deformed items and restoration back to a usable state either for the same purpose or another useful purpose.

Accordingly:

1. Manufacturers shall prioritize the option to repair/restore deformed products to a usable state during production processes
2. Waste actors shall sort through waste, reclaim spoilt/damaged items and restore back to usable state
3. The LGAs shall conduct periodic trainings in conjunction with CBOs for artisans on repair and maintenance techniques to be employed in waste repair
4. The general populace shall adopt a maintenance culture as a strategy to help avoid reckless damages and extend the usefulness of items
5. In any case however, waste selected for repair shall not be left unattended, to avoid further environmental nuisance.
6. Waste repair shall be carried out within the closest possible proximity area to the waste source and in cases of bulk, shall be carried out in an approved environmentally safe designated area

iii. RE-USE

This is the re-utilization of articles from waste streams for a similar or different purpose without changing the form or properties of the articles. In accordance,

1. Materials shall be sorted at source; recyclables shall be separated for re-use.
2. Categories for sorting shall include glass, paper, plastics etc.
3. Waste actors shall adopt checking, cleaning, repairing, refurbishing whole items or spare parts for re-use.
4. The federal and state government shall strive to make continuous improvement toward full utilization of all solid waste streams.

iv. RECYCLE

Waste recycle is a process of reclaiming waste for further use.

1. The Federal and State governments in conjunction with technical partners shall evolve and promote appropriate technologies for recycling of waste components such as bottles, glass, metals, paper, plastic and organic matter
2. The LGAs shall engage services of community members/ private sector for collection of recyclable materials
3. These recyclables shall be collected and sorted into common types so that the raw materials from which the items are made can be reprocessed into new products
4. Households shall be given economic incentives to separate those recyclable materials from the waste stream
5. The State government shall foster the establishment of small-scale waste recycling plants at household and community levels, to source for and convert recyclable waste
6. 15% of generated waste shall be processed through composting, recycling, re-use activities, and effective one-year post policy implementation for the Federal and State levels and 18 months for Local Government areas. At a minimum, this percentage shall be increased by 10% every 3 years
7. The Federal/State/LG shall support the development of markets for recycled materials.
8. The Nigerian government shall take advantage of the economic opportunities that come from utilizing waste as a resource in a global economy

v. RECOVERY

Entails the controlled extraction of a material or the retrieval of energy from waste to produce a product. In accordance,

1. The FMEnv shall liaise with technical partners to institute waste recovery mechanisms information materials

2. The FMEnv/State ministries of environment shall import technologies for recovery of valuable parts from waste. This shall be done in conjunction with developmental/ technical partners
3. Community populace shall be utilized in the informal waste recovery process as much as possible
4. The Federal Government through the FMEnv shall develop energy recovery mechanisms from organic waste, this shall include but not limited to methanol recovery, ethanol recovery etc.
5. The Federal Government through the FMEnv shall liaise with developmental and technical partners to establish waste energy recovery plants such as methanol plant.

6.1.2 TECHNOLOGIES AND SYSTEMS APPLICATIONS

Waste management technologies and systems will periodically be reviewed to recover value from solid waste where economically and environmentally feasible, and to manage residual wastes in ways that are protective of the public health and the environment, generate wealth and create employment. Technologies shall be adopted and where required adapted to drive components of the solid waste management system based on national, states and community needs. Periodic review of technologies and systems shall also be carried out to ensure the application of Best Available Technologies/Techniques and to ensure adherence to international best practices. This will also ensure resource efficiency and cleaner production.

The Federal Ministry of Environment shall endorse new and imported technologies for solid waste management while the governments at local, state and national levels shall put in place a number of instruments designed to reduce the amount of waste produced and to implement the '5Rs'.

6.1.3 NATIONAL WASTE MANAGEMENT RESOURCE ACTION PROGRAM

1. A national waste management resource action program shall be designed and implemented, and have the following functions:
 - Market Facilitation - this will include identification of new uses and applications for recyclable materials.
 - Promotion of Investment in Re-processing - all tiers of government should encourage investments in waste re-processing capacity

- Research - understanding of our waste stream (volume, characterization and distribution) and the opportunities for reuse and recycling shall be a cardinal focus of the government
 - Information and Data Collection - a management information system (MIS) on MSW shall be developed and institutionalized.
2. Public Procurement: encouragement of the procurement of recycled goods in public institutions shall be instituted. This will:
 - Lead to an increase in demand of recycled goods
 - Raise awareness in recycling and recycled products
 - Provide security of markets for investors in re-processing facilities and manufacture
 3. Development of Markets for Recyclables - governments shall develop schemes to encourage the use of recyclable materials in production and manufacturing processes
 - Encourage development of markets for recyclates
 - Put in place economic instruments that will promote the use and consumption of recycled materials
 4. Producers' Responsibility - as stated in the EPR Principle all manufacturers and producers of goods shall be encouraged to as much as possible track, recover and reuse their end of life products and packaging (newspapers, WEE, batteries, plastic bags, cans, PETS bottles, end of life vehicles etc.).
 5. Landfills - a national strategy to discourage the development of landfills as a primary form of waste disposal in the country shall be implemented. Landfilling of waste is a missed opportunity for the implementation of the 5R's and a veritable source of greenhouse gas emissions.
 6. Waste to Wealth - the solid waste management sector is contributing to the national GDP. There is still a lot of untapped potential for wealth creation in the sector.
 - Increased partnerships with multinational companies shall be encouraged
 - The FMEnv and State Government through the State Ministries of environment shall set up facilities for solid waste recycle, treatment plants, waste recovery centres (embedding the current informal sector)

The FGN through the FMEEnv shall;

- Ensure proper and systematic sorting of waste at their sources is carried out at all levels so that waste recycling business stays as an economically and commercially feasible attractive venture to investors.
- Ensure proper extraction of numerous valuable resources contained in the solid waste so as to improve socio-economic situation of the country, by creating new types of jobs, alternative products, reduce climate change and also involve investors in the waste management business.
- Organize public enlightenments, awareness programs and education of her citizens on the importance of waste separation at source that adversely influences commercial feasibility of recycling and modern waste treatment approaches.
- Ensure all level of governments, that is, States, LG and communities are deeply involved in the waste management process.
- Be committed to proper municipal waste sorting prior to its disposal, this would make recycling more attractive to investors.
- Educate communities deeply about the importance of sustainable SWM system
- Create enabling environment for investors where they can construct tangible infrastructures necessary to build a formidable, effective and efficient solid waste management system.
- A lot of business opportunities will be harnessed in solid waste management as summarized in Table 3 below;

TABLE 6: BUSINESS OPPORTUNITIES IN WASTE TO WEALTH

Solid Waste to Wealth Value Chain	Business Opportunities
Primary collection and Segregation of inerts, dry organics and other wastes	<ul style="list-style-type: none"> ▪ Collection of reusable plastics and metals etc. for sale in local markets ▪ Production and sale of compost to farmers ▪ Mobilizing construction debris to make tiles and bricks
Separation of wet organic wastes	<ul style="list-style-type: none"> ▪ Biogas based power generation from sludge ▪ Maintenance of transfer stations.
Secondary collection and storage	<ul style="list-style-type: none"> ▪ High throughput screening of materials for re-use, repair, recycle and energy recovery

TABLE 6: BUSINESS OPPORTUNITIES IN WASTE TO WEALTH

Solid Waste to Wealth Value Chain	Business Opportunities
Recycling of wastes	<ul style="list-style-type: none"> ▪ Recyclable commodity transactions from transfer stations ▪ Sale of recycled plastics or metal granules ▪ Conversion of processed wastes to industrial commodities
Transportation and logistics	<ul style="list-style-type: none"> ▪ Transporting solid waste from the source to processing centres for energy recovery. ▪ Transportation of waste collected to other treatment and disposal facilities ▪ Revenues from automobile manufacturing and sales to corporate bodies and contract holders etc. ▪ Production of machineries and equipment for energy recovery technologies. ▪ Decentralized technology installations ▪ Power generation and sale of power.
Solid waste to energy recovery	<ul style="list-style-type: none"> ▪ Production and sale of processed organic feed stocks from solid waste ▪ Funding from Clean Development Mechanisms
Management of wastes at dumpsite	<ul style="list-style-type: none"> ▪ Design and construction of secured final disposal dumpsites ▪ Management of designated dumpsites
Organization/financing for service and value chain enterprises	<ul style="list-style-type: none"> ▪ Debt and equity financing

7. Waste To Energy- Government shall encourage and promote relevant and appropriate technology options for setting up projects on energy recovery from solid waste. The dual pressing needs of solid waste management and reliable renewable energy source will create attractive opportunities for investors and project developers to;

- Promote waste to energy schemes and set up waste to energy plants
- Work with developmental partners on funding mechanisms and technology options
- Encourage national programs for the recovery of energy from industrial and urban waste

The FGN through the FMEnv shall;

- Seek for sources of funding and financial assistance for commercial projects on waste-to-energy programmes
- Create financial incentives for supply of garbage, free of charge to waste-to-energy facilities and for promotion, co-ordination and monitoring of waste-to-energy projects
- Encourage and fund research and studies, trainings, workshops and seminars on waste to energy technologies and programmes, including award of scholarships

6.1.4 HUMAN RESOURCE, CAPACITY BUILDING AND EDUCATION

Human resources development shall be encouraged and treated by all tiers of government as an integral vehicle to achieving an efficient solid waste management system in-country, including the development of required and appropriate technologies (BAT/BEP).

The Federal government through the FMEnv shall:

1. Carry out a human resource and training needs assessment for public sector solid waste management institutions and functions, including monitoring, inspection and enforcement.
2. Establish minimum standards for national capacity training, educational needs, qualifications and professional standards.
3. Provide capacity building for MDAs, States, Local government agencies, etc.
4. Encourage and provide funding for participation of academia and research institutes in developing new and more effective technologies and practices on SWM.

The State government through the SMEnv shall:

5. Provide educational needs for citizens and communities on the need for solid waste management.
6. Organize workshops and trainings for organizations and the general populace on practical solid waste management practices and techniques.
7. Provide trainings for waste handlers.
8. Employ the services of private sector organizations to deliver capacity building and introduce best available technologies to the waste management actors in the state.

The Local government shall:

9. Incorporate WASH services to encompass aspects of SWM in conjunction with NGOs and CBOs.
10. Encourage non-governmental organizations, community-based organizations and women, youth and public interest group programmes, in collaboration with local municipal authorities, to mobilize community support for waste reuse and recycling through focused community-level campaigns.
11. Shall make efforts to mobilize, train and formalize the informal sector for better social, economic and environmental delivery.

I. PUBLIC ENLIGHTENMENT AND COMMUNICATION

1. The FMEnv shall ensure that the approved national solid waste management policy shall be timely and adequately distributed at the Federal, State and Local government levels. This shall be completed at most three (3) months from the receipt of approval of the policy document by the FMEnv.
2. There shall be waste management intervention programmes instituted at the Federal/State/Local government levels.
3. The Federal/State/LG shall ensure continuous communication strategies integrated into the work programme of waste management interventions to highlight lifestyle choices that minimize waste generation and influence sound strategic decision making.
4. Federal/State/Local governments shall ensure that the general public is educated about appropriate waste management practices, circular economy and sustainable development.
5. Waste management authorities and environmental protection agencies shall develop and disseminate waste audit methodologies that inform an understanding of the nature of the wastes generated and actions that can take be taken to minimize the quantities and the costs associated with managing these wastes.
6. The FMEnv shall ensure that relevant stakeholders are involved and consulted at all stages in the development, implementation and subsequent review of the National Solid Waste Management Policy, Strategy and Plan.
7. In particular the FMEnv will work with the LGAs and other public and private

stakeholders to ensure that the participation of private sector organizations in the Solid Waste Management sector is optimised.

8. The FMEnv in conjunction with the Federal Ministry of Health and Federal Ministry of Education shall take steps to ensure that SWM issues are sufficiently and appropriately addressed within educational curricula, particularly National University Commission (NUC), WAEC, NECO and other relevant stakeholders.

II. PUBLIC PRIVATE PARTNERSHIPS

1. The Federal government through the FMEnv shall support the participation of private sector waste management service organizations.
2. The FMEnv will work with the State/LGAs, the House of Assembly and other public and private stakeholders to ensure that the participation of private sector organizations in the Solid Waste Management sector is actualized.
3. Private sector service organizations shall be considered as a vital tool through which the objectives of the national solid waste management policy may be met.
4. The FMEnv with the support of the House of Assembly shall constitute legal, institutional and financial frameworks to support private sector participation in the waste management sector.
5. Private sector participants shall abide by open competition, transparency and accountability in all activities.
6. Private sector participation shall be hinged on the principle of fair play and transparency that is devoid of political undertones. The selection of private sector participants in Solid Waste management shall be organized as follows;
 - a) Franchised areas shall be planned and mapped,
 - b) Criteria for company selection and qualification shall be clearly stated,
 - c) Indicators for franchised performance shall be specified,
 - d) Terms of reference and conditions of engagement of the private sector participant shall be well defined,
 - e) Monitoring and evaluation procedures shall be outlined,
 - f) The entire operation shall be backed up by legislations.

7. The transfer of risk to the private partner will be through appropriate payment mechanism and specific contract terms. The private partner may be tasked with provision of services to the public and be paid by the government or through user charges from the end users of the services or both

III. FUNDING MECHANISM

In order to achieve the goal of the National Solid Waste Policy, considerable financial resources are required in ensuring economic productivity and all-round sustainability of the management system.

1. A sustainable and equitable funding mechanism (one that is implemented in consideration of its economic, environmental, and social impacts) shall be established at the Federal, State and LG levels for sustainability of waste management options.
2. Solid waste management activities shall be mainly financed through annual budget from the National, State and Local Governments.
3. Each community/LG/State shall have access to a variety of equitable funding mechanisms and determine the best options for funding solid waste management activities that meet established standards.
4. The Federal government shall place emphasis on and implement sustainable fund generating mechanisms.
5. Accordingly, financial resources for implementing the policy shall be obtained from;
 - a) Government annual budget allocations
 - b) Donor funding
 - c) Development partners/Philanthropic organizations
 - d) Sector User charges
 - e) Private sector participants
 - f) Ecological funds allocated to all tiers of Government;
 - g) Capital market bonds
 - h) Investments
 - l) Fines and levies.

a. Annual budget

1. The Federal, State and Local Governments shall include solid waste management in their annual budget.
2. Provisions made for SWM within the budget shall be used for the intended purposes

b. Donor Funding

1. The Federal Government shall exercise its powers of diplomacy to promote funding from donor agencies.
2. Donor agencies shall provide support directly to the Federal, State or Local governments or through a reputable organization as agreed by the Government in concern.

c. Development partners/ Philanthropic organizations

1. The Federal Government and the Federal Ministry of Environment shall liaise with development partners and organizations to promote sustainable development in the solid waste management sector.
2. Development partners shall help Nigeria to adopt 'BAT'/BEP' in the management of solid waste in the country.
3. The Federal Government shall solicit the aid of development partners to transform the sector to conform to international standards.
4. Some of the development partners are UNIDO, UNDP, UNEP, AfDB, DFID, World Bank, GEF, WHO amongst many others.

d. Sector User charges

1. Charges will be imposed on benefactors of solid waste management services.
2. Charges shall compose of collection and disposal fees.
3. Charges shall be commensurate with the services provided.
4. Any form of over-exploitation, fictitious and illegal charging shall be construed as an act of corruption and shall be punishable in accordance with the anti-corruption laws in the country.

e. Private Sector Participation (PSP)

1. There shall be increased private sector participation in solid waste management.

2. The Federal, State and Local Governments shall create enabling environment for private sector participation.
3. Private sector shall be involved in collection, transportation, recycling, recovery and disposal of solid waste.
4. Private sector participation shall be achieved via arrangements including contracting, franchise, concession and open competition.
5. The private partner shall provide a defined service, in the case of service contracts e.g. street sweeping, solid waste collection or transportation etc.

f. Market and Investments

1. Investors may trade in and invest in waste management. Government shall create an enabling environment for investors.
2. Investments will include establishment of waste management facilities, vehicles, machines etc.
3. Shares in waste management facilities or equipment may be traded in the capital market.
4. Government may invest in the capital market through bonds or shares.
5. Private energy companies shall be encouraged to enter into waste utilization markets
6. Recycling centres shall be built and operated on the outskirts of the cities, to accept larger volumes of wastes and to minimize health hazards.
7. Investors shall be encouraged to develop capacity and skills in efficient and profitable waste treatment.
8. Waste management companies shall be encouraged to articulate technical and commercial competence so that waste can flow from household and industries back into the economy in an environmentally effective way instead of ending up in landfills.
9. Investors interested in waste-to-energy operation facilities shall obtain permit for their operation.
10. The Federal Government through the FMEEnv shall encourage Development Finance Institutions (DFIs) to play an important role in financing SWM activities by providing maturity matched financing for Solid Waste Management investment project

g. Fines and Levies

1. The FMEnv shall harmonize and appropriate waste licensing fees for each category of sector players.
2. Licensing fees shall be imposed on solid waste industry actors (private sector participants).
3. Companies processing waste shall be charged the appropriate fees.
4. The FMEnv/State Ministries of Environment/Local Government Authorities shall appropriate adequate fines and sanctions for defaulters of the waste management policy, regulations and plan.
5. NESREA shall enforce the implementation of the Policy and develop appropriate regulations and standards
6. NESREA and appropriate State Departments and Agencies shall administer and develop off-shoot regulations from these Policy..
7. Sector violations shall include illegal dumping fines, in-appropriate disposal of medical and other hazardous wastes, unsanitary landfills, and other acts of non-compliance to waste policies and plans.

IV. INCENTIVES

1. The FMEnv in conjunction with the State Ministries of Environment shall develop guidelines for various categories of incentives for the sector.
2. This guideline shall be developed as part of the national solid waste management plan.
3. The government of Nigeria shall provide a range of enabling policies, economic instruments and incentives to propel the development process in the desired direction.
4. The FMEnv in conjunction with development partners shall promote and strengthen research and development programmes in BAT/BEP.
5. There shall be prompt payment to all sector investors at all levels.
6. The FMEnv shall institutionalize 'Polluter Pays Principle' so that the polluter bears the cost of pollution; thus, providing the positive incentives to limit pollution of the environment.

7. Each tier of government shall identify best practices based on set criteria for exposition and reward.

The FGN shall consider the following options to encourage industry, institutions, commercial establishments and individuals to recycle wastes instead of disposing of them:

8. Offer incentives to local and municipal authorities that recycle the maximum proportion of their wastes.
9. Provide technical assistance to informal waste reuse and recycling operations.
10. Apply economic and regulatory instruments, including tax incentives, to support the principle that generators of wastes pay for their disposal.
11. Provide legal and economic conditions conducive to investments in waste reuse and recycling.
12. Implement specific mechanisms such as deposit/refund systems as incentives for reuse and recycling.
13. Promote the segregation of recyclable parts of household wastes.
14. Provide incentives to improve the marketability of recyclable waste.
15. Encourage the use of recyclable materials, particularly in packaging, where feasible.
16. Encourage the development of markets for recycled goods by establishing relevant awareness and technical programmes.

V. GENDER MAINSTREAMING

1. The FMEnv shall carry out sensitization on the importance of gender equality and responsiveness in the management of Solid Wastes in the country.
2. This policy shall encourage women leadership roles in the management of Solid Waste as a gender mainstreaming strategy for sustainable development at the Federal, State and Local government levels.
3. This policy shall support the implementation of Sustainable Development Goal 5 to achieve gender equality and empower all women and girls.
4. Women currently practicing the sorting and composting of solid waste in their household shall be encouraged with incentives.
5. There shall be no discrimination in employing women to carry out waste management services.
6. Women shall be an integral part in the constitution of waste management boards, agencies, parastatals, commissions etc.

7. The FMEnv shall develop and monitor strategies for gender mainstreaming in the Solid Waste sector.
8. The State and Local governments in conjunction with NGOs/CBOs shall ensure women protection in Waste Management by conducting periodic training.
9. The Local government authorities shall work with the law enforcement agencies to protect women waste workers from any forms of assaults.
10. This policy shall support child labour laws (the local government shall ensure that under-aged persons are not exploited in delivering waste management services).
11. The waste management authorities shall ensure dumpsites are properly enclosed to avoid children handling harmful wastes.

VI. DATA AVAILABILITY, MONITORING AND REPORTING

An effective system of ensuring data availability on the quantum, type and locations of solid waste will be an effective tool for adequate planning and development of an effective and sustainable solid waste management programme. Consequently;

1. The FMEnv shall establish a national data bank on Solid Waste Management. This will be carried out in phases and in conjunction with the States ministries of environment, local government authorities, NGOs, CBOs and other sector players.
2. Data generated and reported shall be well categorized for effective usage.
3. The database shall constitute of a national system for classifying, collecting, processing, analyzing and disseminating data information. The sources, nature, quantities and fate of wastes for SWM processes/facilities shall be established.
4. The FMEnv/State ministries of environment shall institute a legally-binding obligation for waste producers (with the exception of householders and certain SMEs) and solid waste management service providers to collect, record and report data and information about the wastes they generate/manage.
5. All large public solid waste management facilities shall be equipped with electronic weighbridges and databases that can be accessed and interrogated remotely.

POLICY IMPLEMENTATION, MONITORING & 7 EVALUATION

7.1 POLICY IMPLEMENTATION

The implementation of the National Solid Waste Management Policy shall include:

1. The FMEnv shall ensure the development of a comprehensive Solid Waste Management Plan for the country.
2. This national policy shall be a minimum requirement implemented at all tiers of governance in the country.
3. The FMEnv shall liaise with industry, academia and experts to develop actionable work-plans to drive the implementation of this policy including the following sub-plans:
 - a) Establishment of a legal and regulatory framework that would guide the coordination of solid waste management
 - b) Technologies and systems applications for safe and sustainable management practices: (sorting and segregation, characterization, “5R’s”, transport and temporary storage, treatment and disposal)
 - c) Financing, cost recovery mechanism including waste to wealth and waste conversion programs
 - d) Communities and Private sector participation

7.2 COMPLIANCE, MONITORING AND ENFORCEMENT RESPONSIBILITY

1. The monitoring of the National Solid Waste Management Policy shall include:

- a) Research and development
- b) Resource mobilization for policy implementation
- c) Periodic review of the solid waste management plan
- d) Solid waste management institutional, technical and operational policies
- e) Monitoring of specialized policies

- f) Technology advancement
- g) Compliance with international treaties and standards

2.Compliance and Enforcement

The compliance and enforcement of the National Solid Waste Management Policy shall include:

- a) Protection of environmental standards
- b) Enforcement of regulations and legislation
- c) Compliance with international treaties and standards

Specific monitoring and enforcement responsibilities shall include:

7.2.1 FEDERAL GOVERNMENT

At the Federal level, the Federal Ministry of Environment (FMEnv) shall-

1. Ensure the implementation of the national policy nationwide.
2. Develop Solid Waste Management guidelines and activities, compile periodic reports and circulate annual reports to stakeholders.
3. Develop key performance indicators for monitoring, evaluation and enforcement
4. Monitor adoption of BAT/BEP at all levels.
5. Hold annual review meeting with relevant stakeholders on challenges and strategies development. These meetings shall be conducted with representatives from the Legislature, MDAs, States and Local governments, multilateral organizations, the private sector, women group, youth group etc.

7.2.2 STATE GOVERNMENT

1. The State governments through the State Ministries of Environment shall cascade the national policy to the State level

The State Ministries of Environment shall:

2. Ensure the implementation of the policy within their jurisdiction.
3. Develop key performance indicators and a schedule of milestones for sector achievements in line with national standards.
4. Relevant agencies shall monitor compliance of state waste actors to set standards and regulations on solid waste management.
5. Waste management authorities shall monitor households, organizations and report issues of non-compliance to waste regulations to the State Ministry of Environment.
6. There shall be bi-annual evaluation and benchmarking meetings to assess the strides and challenges in the sector

7. The State government through the State Ministry of Environment shall prepare yearly performance report for the solid waste sector for the attention of the FMEnv

7.2.3 LOCAL GOVERNMENT

The Local government shall:

1. Domesticate the national policy to the Local government level.
2. Develop key performance indicators and a schedule of milestones for sector achievements within the Local government area.
3. Ensure that the women and youth within the local government are embedded in waste management delivery services.
4. Administer sanctions and penalties for non-compliance within their jurisdiction.
5. The Local government through the Department of Environment will prepare quarterly performance report on solid waste management activities.
6. Adopt the first responder role as entrenched in the constitution.

7.2.4 COMMUNITY LEVEL

1. The community shall take ownership of waste management activities within their jurisdiction
2. The community shall protect waste management activities and monitor compliance with waste management regulations at the community level.
3. The waste vigilante groups/ambassadors will have effective synergy with the Local government authorities to report on waste management issues.
4. CBOs and NGOs shall hold periodic meetings to discuss sector achievements, challenges and strategies.
5. The CBOs/ NGOs shall assist the communities to develop key performance indicators and monitoring plans.

7.3 SANCTIONS

1. The FMEnv in conjunction with the SMEnv shall develop guidelines for various categories of offences, non-compliance and associated sanctions and penalties.
2. Major offences of high impact shall be documented in national plan of action.
3. Relevant laws on solid waste management stipulating service standards and operations shall be enacted and adequately disseminated.
4. The FMEnv/SMEnv/NESREA/States Waste Management Authorities shall impose

penalties, taxes, fines, and charges for non-compliance to solid waste management standards and regulations.

5. FMEnv to develop sanctions for high impact offences (inter-state issues); state government for medium impact (restricted within the state); and Local government for minor impact (restricted to LG).

7.4 EVALUATION

The Federal Ministry of Environment shall:

1. Develop databank for solid wastes generated at all levels.
2. Establish data processing centres for solid waste management across the six geopolitical regions of the country.
3. Determine impact prediction of solid waste management at all levels.
4. Identify high impact index for solid waste management.
5. Perform periodic assessment of key milestones and impacts and where feasible build on lessons learnt.
6. Periodically engage NESREA, SMEnv and other stakeholders to share experience on this Policy implementation.

7.5 POLICY REVIEW

This policy shall be reviewed periodically not later than five (5) years to reflect changing realities and incorporate advancements in waste management technologies and practices.

A N N E X 1

METHODOLOGY FOR DEVELOPING THE NATIONAL SOLID WASTE MANAGEMENT POLICY

A strategic methodology was employed in developing this national solid waste management policy to ensure applicability at the federal, state and local govt. levels. This included:

1. Identification, Review and Collation of existing waste polices and legislations in different national documents and extraction of salient themes for inclusion in the national policy. This was in a bid to ensure that efficient waste policies tools that are already in existence are not ignored or expunged from the national policy document, and also to ascertain the weaknesses thereof of such existing policies.
2. Identification and developing on the Updated National Policy on Environment which looks at the Environment as a whole. This will ensure sustainability and harmony between Environment Policies, most especially at the Federal level.
3. Stakeholder consultations to inform on the project and obtain relevant input and documentation. This included consultations with the FMEnv, State Ministries of Environment and Waste Management Authorities. An inception workshop was held in Kaduna, Kaduna State (North Western Zone) and other zonal workshops/interactions held during the course of the policy development. The aim of the consultations was to avoid a 'develop and dump' situation so as to assure buy-in by all critical stakeholders. Non-governmental actors were also consulted in the course of developing this policy. A validation workshop was held in Abuja which had in attendance representatives from federal, state and local governments, research institutions, waste management associations, international community, development partners, NGOs and CBOs, environment and waste experts and the media community.

4. Field visits were conducted to selected pilot states in the various geo-political regions of the country including the Federal Capital Territory (FCT) to ensure that realities at the regional levels are reflected in the policy document and also obtain stakeholders acceptability of the policy. Major activities included:
 - i) Administration of questionnaires to some States Ministry of Environment, environment and waste management authorities for analysis of the waste sector issues
 - ii) Gathering of information on current waste management situation and practices across the country
 - iii) Discussions with policy makers and waste management authorities at the federal and States levels
 - iv) Sighting of existing dumpsites, landfills, treatment and recycling facilities and their management thereof to ensure holistic representation of issues in the policy

5. Policy articulation along the lines of the integrated waste management hierarchy taking into consideration-
 - i) Institutional policies - Federal, State and LGA levels
 - ii) Operational Policies – reduction, cleaner production, reuse, recycling, composting, incineration, landfill, etc.
 - iii) Technical policies for Waste Streams - waste segregation, packaging, color coding, waste collection, transportation, temporary storage, treatment, disposal, PPP arrangements
 - iv) Funding Mechanisms including PPP arrangements
 - v) Monitoring and Evaluation

A N N E X 2

BENCHMARKING: REVIEW OF EXISTING INTERNATIONAL POLICY DOCUMENTS

This section provides a review of some existing international policy documents for stated countries. A review of the aforementioned provided a basis with which some policies were culled to suit the Nigerian context.

Country	Existing Policy	Institutional Responsibility	Incentives	Public Private Partnership arrangement	Sanctions and Penalties
Philippines	Ecological Solid Waste Management Act	National Solid Waste Management Commission	<p>Businesses and Industries that have been proven to engage in socially acceptable, effective and efficient recycling of wastes:</p> <p>a. Tax and Duty Exemption on Imported Capital Equipment and Vehicles.</p> <p>b. Non-fiscal incentives in the form of simplified procedures for importation of equipment, spare parts, new materials and supplies, and for the export of processed products.</p> <p>d. Financial assistance program rewards for LGUs: monetized or non-monetized</p> <p>Also, there is a waste-for-good exchange program that involves residents gaining points for their recycled waste and exchange the points for items such as rice, medicines, soaps etc.</p>	The Los Banos Solid Waste Organization was formed from the informal sector as the official collector of recyclable waste in the Los Banos municipality in relation to the conversion of an open dumpsite to an ecological waste-processing centre by the Los Banos Municipality,	<p>a. Rendering of community service for 1-15 days to the LGU the violation occurred for littering, throwing, dumping of waste matters in public places.</p> <p>b. Imprisonment for days, months or years for violation of the act. c. A fine can also be issued for violating laws.</p> <p>NB: If the offender is an alien, he shall, after service of the sentence be deported without further administrative proceedings.</p>

Country	Existing Policy	Institutional Responsibility	Incentives	Public Private Partnership arrangement	Sanctions and Penalties
India	The Municipal Solid Wastes (Management & Handling) Rules Maharashtra Non-Biodegradable Garbage (control) Act	Municipal Authority State Government Municipal co-operation	a. Financial Incentives in household waste collection. b. Free-rider Incentives c. Subtractability (when one users benefit subtracts from another's ability to gain value)	In Chennai city, an NGO called EXNORA International, set up small waste management units, which are managed by the community, and the organisation also embedded informal waste workers for primary collection and transportation of wastes from households to waste bins provided in street corners.	a. Deduction of government grants (state/central) till they comply with the directions. b. Fine on the spot of Rs.100 to 5000 violations for non-segregation of waste or littering on streets.
England	The Waste (England and Wales) Regulations 2011	Department for Environment and Rural Affairs	a. Provision of points that can be exchanged for retail vouchers and discounts, to reward households for recycling. b. Grant funding schemes for innovative reward and recognition schemes, available to community groups and local authorities.	In UK, the Local Government, solidifying a voluntary trend among local authorities to outsource waste management services, introduced Compulsory Competitive Tendering of refuse collection.	a. Conviction of a crime can lead to up to 5 years imprisonment and/or a fine

A N N E X 3

WASTE TO WEALTH

The composition of Solid Waste in Nigeria is not much different from the ones generated in developed countries. Solid Waste in Nigeria is highly constituted by Organic and Non-organic components.

Organic Components – Recoverable Resources

- a. Organic component constitutes majority of solid waste generated in the country and there are numerous resources that can be recovered from it.
- b. Such huge organic content of the municipal solid waste renders it relevant for composting for agricultural purposes or feeding it into biogas plants to produce energy for use in residential cooking and electricity generation or for conversion to alcohol (methanol, ethanol) for use in energy production and in industry.
- c. Generated manure from composting would be used as fertilizer to enhance agriculture, as agricultural lands would be saved from pollution.
- d. The produced energy from organic solid waste would reduce reliance on fossil fuels (gasoline, diesel and kerosene) and also help reduce deforestation by means of less firewood use.
- e. Energy demand has been a great concern to all Nigerians, as population continues to increase. The country has been depending on hydropower and fossil fuel (oil and gas) for its energy production since the 1960s. However, energy can be generated from municipal waste by either directly burning it or using advanced technology such as mechanical-biological waste treatments (MBT) to optimize feedstock for energy generation (Jaitner, N. and Poll, J., 2006). The generated energy would serve as a substitute for fossil fuel or

complement that of hydropower and reduce the cost of energy. Money saved on the use of fossil can be channeled into developmental projects for the communities like roads, improved agricultural production, hospitals and schools. This would enhance productivity, socio-economic life and reduce poverty in our country.

Non-Organic Components- Recoverable Resources

PLASTICS and PET BOTTLES

- a) Proper recycling of the municipality waste which is plastic could have significant impact on socio-economic development of the municipality since it would enhance conservation of natural resources, reduce greenhouse gases (GHG) emissions, especially when the plastics are used to produce diesel fuel (UNEP JP, 2013), and reduce the production of Persistent Organic Pollutants (POPS), especially when the plastics are burnt in waste dumps.
- b) If there is segregation at source, plastics and PET bottles can be recycled in an economically viable manner, reprocessing them into granulates which have a high market demand.
- c) Other types of plastics can be recycled but they have less value than the PET bottles and their value is mostly dependent on the recycling and manufacturing options in the vicinity. When sorting and collection are done properly, recycling seems attractive even as venture business to investors.

METALS and ALUMINUMS

- a) Metal mixture includes aluminum cans, iron scraps and other metallic waste. As is well known, creating aluminum and metal products from recycled wastes require less energy than producing them from mining.
- b) Aluminum wastes are 100% recyclable and use only 5% of the total energy required for its extraction (Foeeurope, 2013), such recycling would significantly benefit the country as a whole in terms of energy savings and promoting eco-friendly communities.
- c) Due to the high resistance of aluminum to corrosion, recycled aluminum products would support various socio-economic infrastructural developments such as the building, construction, industrial and transportation industries.

- d) Use of aluminum frames, doors and furniture would also reduce use of timber for these purposes, thus reducing the country's dependency on woodlands that has led to deforestation and desertification.
- e) Aluminum has high market value and can be easily recycled by means of shredding and melting; aluminum should be recycled in Nigeria.
- f) As with Aluminum, other metal components of waste such as steel, iron, different metallic alloys, etc. are equally recyclable and of great economic and eco-friendly value

PAPER and CLOTHING

Paper and clothing wastes constitute significant amount of solid waste generated in Nigeria; presently they are being disposed in landfills and at dumpsites. Paper is generated from wood; recycled paper would reduce global dependency on virgin woodlands and also help improve deforestation problem.

- a) Properly sorted paper waste can be as attractive as aluminum, as far as its recycled commercial value is concerned since even in developed countries, sorted paper is kept in secured places due to their attractive recycling values.
- b) Clothing waste, if properly handled, could be a means of support to the less privileged, and the needy. Clothing waste can also be used as insulators in furniture, cars and in the construction industry. Through appropriate recycling practices, the amount of water used for cotton cultivation and textile processing would be drastically reduced.

GLASS, DEBRIS and DEMOLITION WASTES

Currently, glass and glass-debris wastes are being disposed of in landfills and at dumpsites.

- a) Production of glassware using recycled glass saves energy compared with producing them from raw materials. Glass can be recycled indefinitely because it does not deteriorate from reprocessing.
- b) Recycled glass has a moderate market value and needs to be sorted into colours prior to melting process therefore the need for an effective sorting and segregation practice in our national solid waste management regime.
- c) Debris and demolition waste can be crushed to gravel for re-use in road construction, buildings, and landscaping

A N N E X 1

INCEPTION WORKSHOP COMMUNIQUE

COMMUNIQUE ISSUED AT THE END OF THE WORKSHOP ON SUSTAINABLE SOLID WASTE MANAGEMENT IN NIGERIA ORGANIZED BY THE FEDERAL MINISTRY OF ENVIRONMENT AND KADUNA STATE GOVERNMENT IN COLLABORATION WITH THE UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION (UNIDO) HELD ON 16-17 DECEMBER, 2015 AT HOTEL 17, GRA KADUNA, KADUNA STATE.

We the participants at the Workshop on Sustainable Solid Waste Management in Nigeria held at Hotel 17, GRA Kaduna, Kaduna State, 16 - 17 December, 2015, approve and adopt the following Communique

Acknowledging :

- i. that the Development of an effective National Policy on Solid waste is key to sustainable solid waste management in Nigeria;
- ii. that Sound legal, regulatory and institutional frameworks are essential for effective implementation of the National Policy;
- iii. the need for Provision of adequate protection of workers' health and safety, and ensure effective community emergency preparedness and response;
- iv. the urgent need for the development and maintenance of a reliable/verifiable database on waste generation, rate, quantum and characteristics in Nigeria for proper planning;
- v. the need for Imposition of "polluter pays principle" and effective sanctions for violators;
- vi. that awareness creation and sensitization are necessary to promote behavioral change and encourage investment opportunities and public Private partnership arrangements for productive engagement on solid waste management in National Development;
- vii. the importance and need for Development of capacities of NGOs and CBOs to enhance their roles in effective and efficient waste management;
- viii. that Improvements on infrastructures, collection, transportation and disposal systems are essential in ensuring effective and efficient waste management operations;
- ix. that the present waste management operations in the Nation have resulted in communities losing on recovering, recycling and reusing of waste, thereby losing on the full value of waste as a resource;
- x. that if properly managed, in line with "international best practices", the resources to be recovered from our waste will lead to, job and

wealth creation, new revenues generation pathways, waste-based resource industries and markets, electric power generation, and so on;

Recommend

1. that the Policy should provide national direction on solid waste management for the Federal, States, Local Governments and Private sector; all stakeholders in the solid waste management system will work with the policy document;
2. The development of mechanisms by the Federal Government for instituting a Trust Fund for waste management activities in Nigeria;
3. Waste management must be taken as an essential public service for protection of human health, our environment and quality of life; Governments at all tiers and all levels;
4. The improvement of present method of collection and disposal of waste in our cities, towns and rural communities which are presently inefficient and ineffective in protecting human health, aesthetics and quality of our environment;
5. that Innovative mechanisms for achieving full economic and social benefits from waste should be developed;
6. That our nation's waste management practices should be overhauled for an efficient and effective waste management system in the country;
7. That the Federal Ministry of Environment should spearhead the effort, along with its allied MDAs to effect measures leading to a more efficient and effective waste management operation in the country to actualize the full benefits of our waste products as national resource, which can be applied to other productive uses.
8. that relevant Stakeholders should be clearly identified, specific roles and responsibilities defined in achieving a holistic and effective solid waste management policy for the nation.

RESOLVE

That the proposed National Policy on Sustainable Solid Waste Management, and a National Implementation Plan should be developed with inputs from stakeholders nationwide, adopted at a national workshop, and forwarded to the Federal Executive Council for appropriate authorization and implementation.

A N N E X 2

DEFINITIONS

1. **Broker-** An undertaking arranging the recovery or disposal of waste on behalf of others, including such brokers who do not take physical possession of the waste;
2. **Building and demolition waste-** Any waste, excluding hazardous waste, produced during the construction, alteration, repair or demolition of any structure, and includes rubble, earth, rock and wood displaced during that construction, alteration, repair or demolition;
3. **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 disposal site;
4. **Community-Based Organization (CBO)-** Public/Private non-profit representative of a community engaged in meeting human, educational, environmental, or public safety community needs;
5. **Dealer-** Any undertaking which acts in the role of principal to purchase and subsequently sell waste, including such dealers who do not take physical possession of the waste;
6. **Disposal-** This refers to the final handling of solid waste, following collection, processing, treatment, or incineration. Disposal most often means placement of wastes in a dump or a landfill;
7. **Domestic waste-** Waste, excluding hazardous waste that emanates from premises that are used wholly or mainly for residential, educational, health care, sport or recreation purposes;
8. **Electronic Waste (E-Waste)-** a waste type consisting of any broken or unwanted electrical or electronic appliance.
9. **Healthcare/Medical Wastes-** These are wastes produced within healthcare/medical facilities

10. **Holder-** means the producer of the waste or the person who is in possession of it
11. **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.
12. **Institutional framework-** Are set of formal organizational structures, rules and informal norms for service provision. It is the basis for institutional arrangements and delegation of functions amongst stakeholders
13. **Landfill-** these are earthen facilities/sites where solid wastes are disposed by burial so as to fill in or reclaim low-lying ground/excavated pits. Sanitary landfills are where non-hazardous waste is spread in layers, compacted, and covered with earth at the end of each working day. Secure landfills are those where hazardous waste is disposed of by burial, in holes or trenches in ground lined with impervious plastic sheeting to prevent leakage or leaching of dangerous substances into soil and water supply.
14. **Material Recovery Facility (MRF)-** A MRF is a specialized plant that receives, separates and prepares recyclable materials for marketing to end-user manufacturers
15. **Mulch-** Material such as decaying leaves, bark or compost spread around or over a plant to enrich or insulate the soil
16. **Non-Governmental Organizations (NGO) -** a range of not-for-profit organizations that is independent of nations and their agencies engaged in wide range of activities, a lot of which may be charitable from small community groups to national and international organizations.
17. **Pollution-** The introduction into soil, water, or the atmosphere, waste or other contaminants that cause adverse change. Pollutants can take form of biological matter, chemical substances, particulates, or energy such as noise, heat or light.
18. **Private Sector Participation (PSP) -** These are 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.
19. **Producer-** Anyone whose activities produce waste (original waste producer) or anyone who carries out pre-processing, mixing or other operations resulting in a change in the nature or composition of the waste;

20. **Public-Private Partnership (PPP)**- These are arrangements between a Government agency and a Private Organization in the execution of a particular initiative/project
21. **Quantities (quantum) of waste**- This is the total volume of waste generated within a specific location within a time period
22. **Recovery**- The controlled extraction of a material or the retrieval of energy from waste to produce a product
23. **Recycle**- 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;
24. **Reduction/ Minimization** – a deliberate process of elimination that involves reducing (decrease in volume, weight and toxicity level) of the amount of waste produced in society and which helps to eliminate the generation of harmful and persistent wastes, supporting the efforts to promote a more sustainable environment and society.
25. **Re-use**- The use of a product more than once in its original form, for the same or a new purpose.
26. **Sanction**- A stipulated penalty for disobeying a law or rule.
27. **Sanitation**- a sum total of conditions relating to public health, especially the maintenance of hygienic conditions through services such as garbage collection and wastewater disposal and the provision of clean drinking water and adequate sewage disposal;
28. **Stakeholders**- They are the different groups, institutions or persons with an interest in or affected by an activity/project
29. **Solid waste**- 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, 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
30. **Solid Waste Management (SWM)**- the planning, implementation and supervised handling of solid waste material from generation at the source through the collection, transport and recovery processes to disposal.

31. **Transfer Loading Station (TLS)**- 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.
32. **Treatment** means any method, technique or process that is designed to— (a) change the physical, biological or chemical character or the composition of a waste; or (b) remove, separate, concentrate or recover a hazardous or toxic component of a waste; or (c) destroy or reduce the toxicity of a waste, in order to minimize the impact of the waste on the environment prior to further use or disposal
33. **Waste- means any substance**, whether or not that substance can be reduced, re-used, recycled and recovered—
 - (a) that is surplus, unwanted, rejected, discarded, abandoned or disposed of;
 - (b) which the generator has no further use of for the purposes of production;
 - (c) that must be treated or disposed of; or,
 - (d) that is identified as a waste by the FMEEnv by notice in a Gazette, and includes waste generated by the mining, medical or other sectors, but—
 - (i) a by-product is not considered waste; and
 - (ii) any portion of waste, once re-used, recycled and recovered, ceases to be waste
34. **Waste Avoidance**- To employ efficiency-centered actions that make possible the non-production, remove or reduce the need to consume materials in the first place and hence avoid the generation of waste. Waste avoidance/minimization is at the top of the waste management hierarchy
35. **Waste Collection Vehicles (WCVs)**- These are used for waste collection from primary sources to be taken to Transfer Loading Stations (TLSs) or sites for final disposal;
36. **Waste Generator**- Any person, group of people, industries etc. that generate waste
37. **Waste Management Agency/Authorities**- Institutions set up for the purpose of Waste Management Administration, usually within municipalities
38. **Waste minimization**- process of elimination that involves reducing the amount of waste produced in the society and helps to eliminate generation of harmful and persistent waste

39. **Waste Recycling-** This is the process of utilizing waste materials as raw materials for manufacturing new products, which may or may not be similar to the original product;
40. **Waste Segregation-** Segregation is the separation of the waste generated into its different waste components/groups (biodegradable, glass, wood, paper, plastics, etc.) according to the specific treatment and disposal requirements.



NATIONAL POLICY
on **SOLID WASTE**
MANAGEMENT



FEDERAL REPUBLIC OF NIGERIA
2020



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