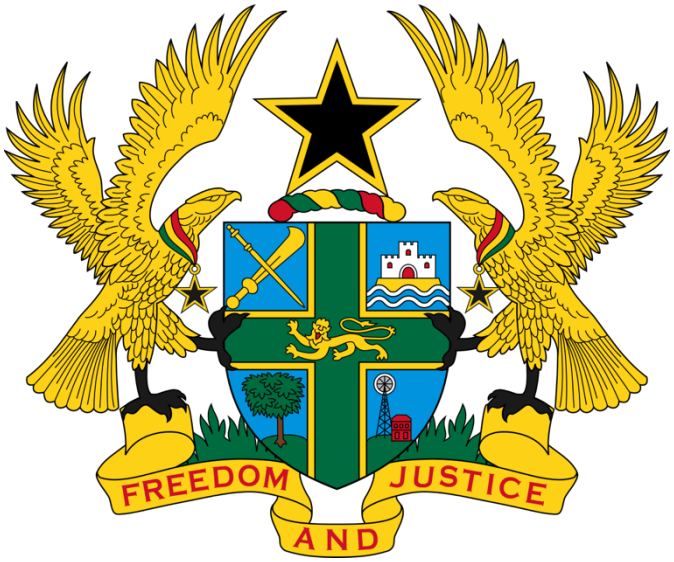

REPUBLIC OF GHANA

MINISTRY OF ENVIRONMENT, SCIENCE, TECHNOLOGY AND INNOVATION

NATIONAL PLASTICS MANAGEMENT POLICY

MARCH, 2020

ACKNOWLEDGEMENTS

Plastics Management Policy Committee

This National Plastics Management Policy is the product of painstaking research, stakeholder consultations and various projects and programmes striving at this Policy's central aim: the comprehensive management of plastics to solve current environmental challenges and as a tool for sustainable development.

This Policy document has been compiled by a dedicated group of experts that have been intensively involved with previous projects and research that has informed this policy. In this regard, we acknowledge and thank all members of the Plastics Management Committee for their tireless effort to produce this detailed and rigorously thought-out and scrutinized Policy document.

We acknowledge and thank the many stakeholders from each and every segment of the plastics value-chain who provided invaluable insight into specific sectorial needs. Contributions were provided from across the public sector, private sector, informal sector, industry associations, NGOs, CSO, development partners and countless academics. We commend your genuine efforts to find tangible solutions to the plastic pollution crises that has plagued Ghana for decades, and we accept your helping hand in achieving this Policy's aim.

The Ministry of Environment, Science, Technology and Innovation (MESTI)

The Ministry of Environment, Science, Technology and Innovation (MESTI) exists to: establish a strong national scientific and technological base for the accelerated sustainable development of the country to enhance quality of life for all. The overall objective of MESTI is to ensure accelerated socio-economic development of the nation through the formulation of sound policies and a regulatory framework that promotes the use of appropriate environmentally friendly, scientific and technological practices and techniques.

We thank the Minister, Honourable Professor Kwabena Frimpong-Boateng, for his direction and mandate to finally produce a long-awaited National Plastics Management Policy for Ghana that works. A practical yet ambitious Policy that has taken into account where we are as a nation, where we are going, and has set us firmly on the path to get to our destination, in a controlled and well regulated environment.

FOREWORD BY THE PRESIDENT OF THE REPUBLIC OF GHANA

Ghana as an emerging economy has a huge potential to grow and transform its economy through industrialization by creating jobs and ensuring the equitable distribution of wealth through judicious utilization of its renewable and non-renewable resources. To realize the potential of becoming a Ghana beyond aid, strong economic principles including on-going fiscal adjustments supported by favourable enabling environment and policy initiatives are expected to boost economic growth for sustainable development. The provisions in the Directive Principle of State policy (Article 36(9) of the 1992 Constitution of the Republic of Ghana) further puts legislative powers behind the country's determination to pursue sustainable economic growth.

Plastics management is very important to the development of our country as it resonates national development agenda and amply reflects in the National Development Blue Print – National Medium-Term Development Framework (Agenda for Jobs: Creating equal opportunity for all 2018-2021). Creating equal opportunity for all is a constitutional requirement enshrined in Article 36(1) which states that "The state shall take all necessary action to ensure that the national economy is managed in such a manner as to maximize the rate of economic development and secure the maximum welfare, freedom and happiness of every person in Ghana and to provide adequate means of livelihood and suitable employment and public assistance to the needy."

Plastics waste management has become one of the biggest and complex challenges of this century, and as a complex challenge it requires innovative and integrated solutions to reduce additional cost to conventional development. Although plastics are a globally important material with diverse applications in the food and beverage industry, textiles, construction, electronic and electrical equipment, medicine and pharmacy, agriculture, amongst others, there are many environmental concerns associated with its use. The hazards plastics pose are numerous and multidimensional and its impacts may transcend national borders.

At the global level, Ghana has demonstrated its commitment to contributing to finding lasting solutions to myriad of problems relating to environment, through strategic efforts aimed towards regional cooperation and partnerships.

The National Plastic Management Policy builds on broader development aims to grow the economy, create jobs, protect the environment, including mitigation of climate change. The policy aim will be achieved by enabling the development of a vibrant and market driven domestic recycling industry. This will result in an improved state of the environment and public health, reduced future pressure on Ghana's natural resources and dependence on imported finished commodities, job creation and socio-economic development, especially at the base of the economic pyramid and amongst vulnerable community groups.

It is my cherished hope that the National Plastic Management Policy will serve as a framework within which government institutions, private sector, Civil Society, development partners and other stakeholders will work closely to create a vibrant economy to enhance wellbeing of our dear people without sacrificing the quality of the environment and its resources.

HIS EXCELLENCY NANA ADDO-DANKWAH AKUFFO ADDO
PRESIDENT OF THE REPUBLIC OF GHANA

PREFACE

Ghana has demonstrated a very impressive economic performance over the years by striving very hard to attain full middle-income country status. However, future developments are likely to be threatened by the menace of plastics if not sustainably managed.

In the last three decades Ghana, like many of her neighbouring countries, has been challenged with exponential growth rates of plastics use and its alarming mismanagement, including wide-spread littering and indiscriminate dumping, causing serious risk to the environment and public health.

A considerable number of these challenges for achieving sustainable plastics management have been identified, ranging from poor public attitudes, low resource mobilisation for effective solutions, incomprehensive waste collection services, inadequate recycling facilities and technical know-how, to lack of clear accountability as the challenges associated with plastics are cross-cutting.

We have witnessed how plastics have been indiscriminately disposed into our water bodies resulting in perennial floods across the country. We have also experienced low fish yields as some toxic chemicals in plastics enter the digestive system of the aquatic animals thereby destroying fish stocks. In the long run, the hazardous effects of plastics tend to have cumulative and compounding negative impacts on human health from pollution of air, marine, freshwater, terrestrial environments, agriculture, fisheries and the food web, and environmental quality in general, highlighting the emerging global concern of micro- and nano-plastics.

In the light of the above, the National Plastics Management Policy (NPMP) has been prepared and designed within the context of national sustainable development priorities, including achieving the objectives of the Coordinated Programmes of Economic and Social Development Policy) 2017–2024; and the National Medium Term Development Framework., AU Agenda 2063 and the Sustainable Development Goals. The overarching policy aim is to comprehensively manage plastics to address current environmental challenges and also as a vehicle for sustainable development. The NPMP is the output of a number of consultations with key stakeholders. Responsibility for implementing the various components set out in the policy will be by key line Ministries and Agencies, who work in close collaboration with each other, civil society, and the business community (Resource Recovery Secretariat).

The Ministry of Environment, Science, Technology and Innovation (MESTI) stands ready to provide leadership through policy direction in the implementation of the NPMP while continuing to advance national economic development. We therefore call on all stakeholders both home and abroad to support in this important endeavour.

Prof. Kwabena Frimpong-Boateng,
Minister
Ministry of Environment, Science, Technology and Innovation

EXECUTIVE SUMMARY

The overarching aim of this National Plastics Management Policy is to solve the challenges associated with comprehensive plastics management, thereby improving the state of the environment and public health. This will reduce pressure on Ghana's natural resources and dependence on imported finished commodities, creating jobs and greatly contributing to socio-economic development especially at the base of the economic pyramid and amongst vulnerable community groups. Eventually, it is expected that this will contribute to the achievement of the AU Agenda 2063 and several of the United Nations Sustainable Development Goals (SDGs), both of which the Republic of Ghana is a signatory.

About 82% of Ghana's plastics waste could be readily recovered and recycled with existing technologies into value-addition products in high demand locally and within the West African region. A vibrant recycling industry in Ghana could recover nearly one million tonnes of waste plastics from the environment and landfills annually, to be recycled into basic-need products valued at 2 billion GHC per year, creating 5 million jobs across the economy. The Strategic Actions mandated in this Policy will create the strategic support necessary for both industry and government agencies in Ghana to plan for large-scale recycling of plastics that is market driven. Financing has been identified as the major constraint currently inhibiting both the public and private sectors. These Actions have been designed to create a synergistic framework to reduce investment risk and encourage both domestic and foreign investment into new Ghanaian enterprises, across the Republic.

This National Plastics Management Policy is built on four focal areas that, when used together, will achieve a comprehensive system for managing plastics and contribute positively to natural capital, environmental protection and socio-economic development. The following strategic actions represent an integrated approach for systems-level structure and support to collectively enable the achievement of the four focus areas of this Policy:

(1) Behavioural change,
(2) Strategic planning and cross-sectoral collaboration,
(3) Resource mobilization towards a Circular Economy, and
(4) Good governance, inclusiveness and shared accountability.

Foremost, this Policy adopts the Waste Hierarchy, accepting that the greatest challenges created by plastics on the economy, the environment and public health are incurred at the waste phase of the plastics lifecycle. At the core of the principles of this Policy are the internationally recognized priorities of waste reduction first, followed by reuse, recycle, recover energy and, lastly, disposal to be avoided when possible.

The options for sustainably managing plastics are many and varied, and will be adopted as a package of synergistic strategies to most efficiently achieve the aim of comprehensive plastics management as a tool for ensuring the integrity of our environment and sustainable development.

Contents

ACRONYMS

AGI	Association of Ghana Industries
AMA	Accra Metropolitan Assembly
AU	African Union
CSIR	Council for Scientific & Industrial Research
CPESDP	Coordinated Programmes of Economic and Social Development Policy
CSO	Civil Society Organization
DAs	District Assemblies
EPA	Environmental Protection Agency
EPR	Extended Producer Responsibility
GHG	Greenhouse gas
M&E	Monitoring & Evaluation
MDAs	Ministries, Departments, and Agencies
MESTI	Ministry of Environment, Science, Technology and Innovation
MGCSP	Ministry of Gender, Children and Social Protection
MLGRD	Ministry of Local Government and Rural Development
MMDAs	Metropolitan, Municipal and District Assemblies
MoE	Ministry of Education
MoF	Ministry of Finance
MSWR	Ministry of Sanitation and Water Resources
NMTDF	National Medium-Term Development Framework
NCCP	National Climate Change Policy
NDPC	National Development Planning Commission
NGO	Non-governmental Organization
PWMF	Plastic Waste Management Fund
RCCs	Regional Coordinating Councils
SDGs	Sustainable Development Goals
SHEP	School Health Education Programme
UN	United Nations
WMD	Waste Management Department

DEFINITION OF TERMS

Hazard: is to be defined as having a negative impact on the environment, human health, economic activity, including perturbations with urban infrastructure functioning, especially critical urban infrastructure such as storm water drains, livelihoods and general well-being, and also accounts for negative externalities, or indirect impacts from the use of a particular material of product.

Plastic is a lightweight, hygienic and resistant material which can be moulded in a variety of ways and utilized in a wide range of applications.

Single-use plastics, often also referred to as disposable plastics, are commonly used for plastic packaging and include items intended to be used only once before they are thrown away or recycled. These include, among other items, grocery bags, food packaging, bottles, straws, containers, cups and cutlery.

Biodegradable plastics are entirely degraded by biological activity (compostable) without leaving behind any residue. They can be manufactured from renewable materials and fossil fuels, as well as mixtures of those.

Natural Capital is the finite stock of natural assets (air, water, and land) from which goods and services flow to benefit society and the economy. It is made up of ecosystems (providing renewable resources and services), and non-renewable deposits of fossil fuels and minerals.

Material Recovery Facility (MRF) is a facility employing various manual and machine processes to sort recyclable materials, remove contamination, and process, usually by baling, for shipment and sale to various markets.

Waste Collectors are entities that collect recyclables from generators and deliver them to processors or to markets. Collectors may collect post-consumer materials from curbside or drop-off centers and deliver them to material recovery facilities (MRFs). Collectors are also referred to as haulers or carters. Some collectors may also own and operate the MRFs.

Recovery is the successful diversion of recyclable materials out of landfill disposal to recycling collection and reuse systems. The European definition can include incineration with energy capture.

Recyclables are those materials identified for collection, processing, recovery or reuse as part of a local government, business or other recycling collection program.

Recycling involves Separating, collecting, processing, marketing, and ultimately using a material that otherwise would have been disposed.

Municipal solid waste is all solid waste generated in an area except industrial and agricultural wastes. Sometimes includes construction and demolition debris and other special wastes that may enter the municipal waste stream. Generally, excludes hazardous wastes except to the extent that they enter the municipal waste stream. Sometimes defined to mean all solid wastes that a city authority accepts responsibility for managing in some way.

Microplastics are minute plastic particles or materials that result from the action of high UV irradiation and abrasion by waves on plastics.

Private sector: includes for profit legally established companies, for profit entities without legal classification (i.e. the informal sector, including waste pickers/scavengers), industry- and community-based associations, consultants, planners, and academics qualified in planning, basic service provision and recycling.

CHAPTER 1

1.0 Introduction

The purpose of the National Plastics Management Policy is to bring renewed focus and cohesion to the many existing policies and programmes within the public and private sectors to address the rapidly growing plastics pollution crisis in Ghana. The state of plastic pollution across the country is a matter of great concern for Ghanaians.

On the one hand, plastics have greatly contributed to sustainable development, including increased access and affordability to clean water, reduced wastage and improved hygiene of agricultural products among others.

On the other hand, mismanaged plastics are polluting the streets and fields of every city in Ghana. Littered plastics find their way into storm water drains exacerbating threat of flooding in extreme rain events, and are washed out to sea choking wildlife and potentially contaminating seafood, the primary protein source of many Ghanaians.

Appreciating the benefits that plastics do provide to health, hygiene and quality of life, the Government of Ghana, led by its Ministry of Environment, Science, Technology and Innovation, acknowledges the hazardous impacts that mismanaged plastics pose to the environment, human health and sustainable development.

Therefore, this National Plastics Management Policy sets the framework for the proper and sustainable management of plastics across their life-cycle, across the economy and across Ghana's diverse society.

1.1 Overview

Plastics use and especially the management of plastic waste has become one of the biggest and most complex challenges of this century, and as a complex challenge it requires integrated solutions. Although plastics are a globally important material, there are many environmental concerns associated with their use. The hazards plastics pose are numerous and multidimensional and their impacts may transcend national borders.
Global plastics production grew from 1.5 million metric tons (Mt) per annum in 1950 to 400 million Mt in 2017. Production during the last 10 years equalled production during the whole of the 20th century combined. It is estimated that global plastics production could triple by 2050. Only 9% of the 9 billion tonnes of plastics ever produced have been recycled, with 8 to 12 million tonnes entering the ocean as litter every year.

In Ghana, some 120 companies manufacture over 52,000 tonnes of various plastics and plastics products per year. Presently, the exact quantities and sources of origin of plastics imported into the country are not monitored and are therefore not known. However, waste plastics have been well researched. More than one million tonnes of plastic waste are generated every year. This suggests that domestic manufacturing accounts for less than 5% of all plastics entering the economy.

Plastics entered the country in the late 1990s and facilitated the packaging of manufactured products and reduction of agricultural wastage. However, the waste stream over the years is changing from mainly organics to increasing proportions of plastics, whereas the attitude of indiscriminately disposing of (previously organic) wastes still remains widespread. Plastics waste has found its way into surface water and marine environments. As a result of this

situation, landscapes are littered with plastic waste while beaches and oceans are polluted with plastics due to indiscriminate disposal methods.

This National Plastics Management Policy is Ghana's integrated response to managing plastics on sustainable basis to facilitate speedy national development. It has been prepared and designed within the context of national sustainable development priorities, including achieving the objectives of the governments Coordinated Programme of Economic and Social Development Policies (2017-2024): *National Medium-Term Development Framework: Agenda for Jobs: Creating equal opportunities for all (2018–2021), AU Agenda 2063 and the Sustainable Development Goals*

It provides a clearly defined pathway for dealing with the challenges of plastics waste within the socio-economic context of Ghana. During its implementation, the National Plastics Management Policy will also aim to achieve effective coordination of all plastics management initiatives.

The Policy provides;

- an analysis of the current situation,
- the broad policy vision and objectives,
- as well as outlines specific programmes and actions needed to respond to plastic management in the country.

1.2 Analysis of the current situation

1.2.1 Effects of Plastics

Plastics are extremely diverse in terms of chemical composition, properties and possible applications, and are widely distributed in the society and the environment. Several of the chemicals used to produce plastics are hazardous to human health and the environment. These, and their degradation products, may be released during the life cycle of plastics products. The under listed are some of the harmful effects of plastics to the environment and human health.

1.2.1.1 Polluting Substances

The environmental effects of plastics are different depending on the type and quantity of additives that have been used. There is a wide range of additives commonly used in plastics products, but probably most injurious to ecology and human health are Bisphenol A (BPA) – and its many emerging replacements – phthalates, brominated flame retardants and heavy metals.

1.2.1.2. Plastics and Human Health

Some plastics additives are known to migrate from the polymer matrix and are absorbed by humans with serious health implications. Effects of chemicals absorbed by humans from plastics include decreased fertility, increased cancer, impaired cognition and development, and hormone disruption, among other life-quality degrading scenarios.

The foregoing is reinforced by findings from toxicological population studies determining that the primary exposure pathway to BPA and high molecular-weight phthalates result primarily from ingesting food that has been in contact with plastics, its packaging.

Early development life-stages appear to be particularly sensitive to the effects of a number of plastics associated toxins. A major concern is the growing body of evidence that known adverse effects from these substances relate to current disease trends in human populations, such as increases in prostate cancer, breast cancer, low sperm count, miscarriage, obesity, associations with chronic disease, including cardiovascular, type 2 diabetes and with hormonal changes in adults.

1.2.1.3. Air Pollution

The burning of plastics, which is a wide-spread activity in Ghana, releases toxic substances contained in the plastics as additives, and greenhouse gas emissions that contribute to climate change, such as CO_2, short-lived black carbon and particulate matter. Many of the most toxic substances are released from the improper processing of e-waste (e.g. burning cables) and are considered persistent organic pollutants (POPs) because of their capacity to remain in the environment for a long time, possibly hundreds of years.

Once gaseous substances have been released in the air, they are free to rapidly move over large distances before resettling. Such movement patterns mean that exposure areas are much greater than the processing site, and that air pollutants are available for environmental and human exposure via many pathways, including inhalation, dermal exposure and ingestion of contaminated food and water. Human health effects from long-term exposure to several airborne pollutants associated with the burning of plastics include decreased immune function, cataracts, kidney and liver damage, breathing problems, asthma-like symptoms, lung function abnormalities, skin inflammation, and increased risk of cancers of the skin, lung, bladder and gastrointestinal.

1.2.1.4. Marine Pollution

The migration of plastics – and especially micro- and nano-plastics – from lands into oceans is emerging as an environmental crisis recognized by nations around the world, and is estimated at 8-12 million tonnes per year, with the vast majority of inputs coming from rapidly developing economies lacking comprehensive waste management services, such as Ghana.

This concern, has been summarized in United Nations Environment Assembly (UNEA) Resolution 1/6 on *Marine Plastics debris and micro Plastics* adopted by Delegates from 160 countries, including Ghana, in June 2014, at the United Nations Environment Assembly, and therefore is rationale for this Policy.

In the marine environment, the most well documented impacts are entanglement and ingestion by wildlife. Other lesser-known effects are the alteration of habitats and the transport of alien species. Perhaps one of the most difficult impacts to fully understand, but also potentially one of the most concerning, is the impact of chemicals associated with plastics waste and demonstrated pathways into the human food web.

1.2.1.5. Fresh water Pollution

Fresh water environments are also vulnerable to many of the hazards that plastics pose to the marine environment, including entanglement, ingestion and chemical contamination. Of particular importance are persistent organic pollutants (POPs) associated with chemical fertilizer and pesticide use in agriculture. Many contaminants of this class are hydrophobic, which means they do not mix or bind with water, but have high affinity for plastics. Presence of plastics in fresh waters, especially in high concentrations, will likely lead to reduced fish stocks related to entanglement and asphyxiation, and from eco-toxicity impacts already

discussed. This is a major threat to millions of inland fishermen and fishmongers in Ghana whose main economic and sustenance activities depend on these natural resources.

1.2.1.6. Terrestrial Environment

In addition to ecotoxicity hazards already mentioned, which also have negative impacts on terrestrial environments, piles of refuse dumped in open spaces and un-engineered landfills, or informal dumpsites, as is very common across Ghana, produce a collection of toxic substances known as leachate that is a major contaminant of surface and ground water.

Leachate is a liquid that passes through accumulated refuse and extracts dissolved and suspended matter from it, which are then carried into the soil and groundwater, potentially contaminating plants and animals. The toxicity of leachate is such that it is under the regulatory authority of the Atomic Energy Agency. The types and quantities of plastics present in a refuse pile are directly related to the hazardous chemicals present in the leachate generated.

1.2.1.7. Agriculture, Fisheries and the Human Food web

Plastics and especially chemicals associated with plastics are known to have many adverse impacts on the food web, including inhibition of plant growth, broken nutrient pathways, animals foraging and chocking, and chemical uptake in both plant and animals.

Once in the ecological food chain, the chemicals derived from plastics and micro-plastics bio-accumulate in the food web. Such accumulation, whether via agriculture or foraging, finds a pathway into the human diet. The most likely pathway is through ingestion, after which chemicals could bio-accumulate up the food chain, meaning that those at the top could be exposed to greater levels of chemicals.

1.2.1.8. Impacts on National Development

While Plastic have many positive benefits on national development, the mismanaged plastics have many negative impacts on national development.

On the one hand, plastics have greatly contributed to sustainable development, including increased access and affordability to clean water, reduced wastage and improved hygiene of agricultural products – our food supply.

On the other hand, mismanaged plastics are polluting the streets and fields of every city of Ghana. Littered plastics find their way into storm water drains exacerbating threat of flooding in extreme rain events, and are washed out to sea, destroying the spawning grounds of fishes, choking of marine life as a result of ingestion and potentially contaminating seafood, the primary protein source of many Ghanaians.

The dichotomy in benefits from plastics use and negative impacts from mismanaged plastics use is the basis on which this Policy has been developed to therefore streamline sustainable plastics management across the plastics life-cycle, across the economy and across Ghana's diverse society.

1.3 PAST EFFORTS AT MANAGING PLASTICS

Various ministries of the Government of Ghana and actors in the private sector and civil society have proposed and initiated a wide variety of solutions to improve the state of plastics pollution in Ghana over the past 30 years.

These interventions express the commitment and desire by both state and non-state actors in managing plastic waste in an environmentally sound manner. However, obvious bottlenecks identified in the various interventions have led to ineffective implementation of the past and current interventions.

The main lesson learnt from the past interventions is that, despite the common desire by all to address the plastic menace, the institution of a policy, directive, committee or programme will not in itself ensure results without the necessary financial resources and know-how to get started, and a self-sustaining economic model, which creates tangible benefits, such as job creation, to keep the programme going. Figure 1 below is the various interventions at plastics waste management.

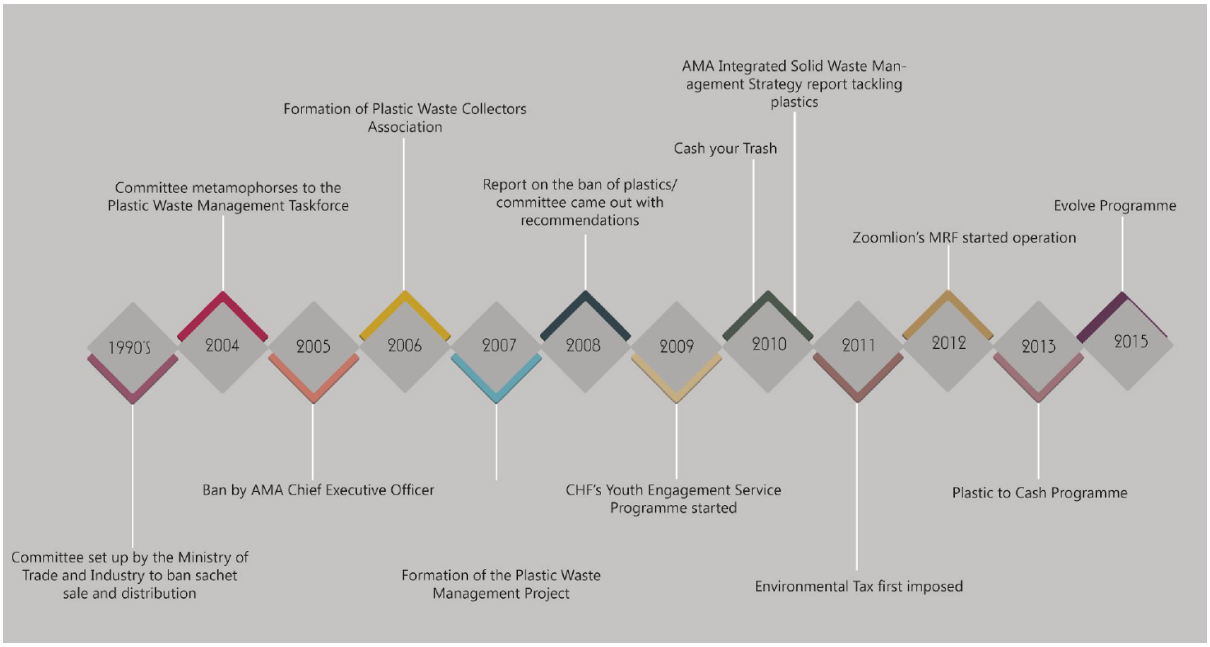

Figure 1 History of plastics waste management initiatives in Ghana

In summary, the management of plastic waste in Ghana has been bedevilled by the following:

- Inconsistent and irregular communication efforts designed to sensitize and educate on proper and improper ways of plastic management, and associated impacts;
- Lack of appropriate planning;
- Absence of appropriate marketing strategy for recycled plastics products;
- Lack of coordination between sectors, actors and government agencies;
- Inadequate governance;
- Poor technology adoption;
- Lack of appropriate legislation;
- Weak enforcement of existing legislation;
- The absence of policy incentives for the general public and the private sector.

1.4 Existing Policy, Legal and Regulatory Framework

1.4.1 Existing Environmental Policies

- Environmental Sanitation Policy, 2010
- Environmental Policy, 2014
- Climate Change Policy, 2012
- Public Health Policy, 2007

1.4.2 Relevant Environmental Legislations

The following legislations regulate the environment, public health and waste management in Ghana, and will complement the implementation of this Policy:

- **National Development**
  - The Constitution - Section 41k, 1992
  - National Development Planning Commission Act, 1994 (Act 479)
  - National Development Planning Systems Act, 1994 (Act 480)
- **Air Pollution**
  - Environmental Protection Agency Act, 1994 (Act 490)
  - Management of Ozone Depleting Substances and Products Regulations, 2005 (LI 1812)
  - Ghana standards for environment and health protection- requirement for ambient air quality and point source/stack emissions. (GS 1236, 2019)
- **Coastal & Marine Environment**
  - Fisheries Act, 2002 (Act 625)
  - Maritime Zone (Delimitation) Act,1986 (PNDCL 159)
  - Wetlands Management (RAMSAR Sites) Regulations, 1999 (LI 1659)
  - Maritime Pollution Act 2016 (Act 932)
- **Human Development and Settlement**
  - Centre For Scientific and Industrial Research Act,1996 (Act 521).
  - Ghana Ports and Harbours Authority Act,1986 (PNDCL 160)
  - Infectious Diseases Act, 1908 (CAP 78)
  - Public Health Act, 2012 (Act 851)
- **Hazardous Substances/Chemical**
  - Mercury Act, 1989 (PNDCL 217)
  - Hazardous and Electronic Waste Control and Management Act, 2016 (ACT 917)
  - Hazardous and Electronic Waste Control and Management Regulations, 2016 (L.I. 2250)
- **Solid Waste Management**
  - Environmental Assessment Regulations 1999, (LI 1652)
  - Local Governance Act, 2016 (Act 936).
  - Environmental Tax – ACT, 2013 (ACT 863)
  - Environmental Sanitation Bye-Laws (2003)
- **Water Management and Pollution**
  - Environmental Protection Agency Act, 1994 (Act 490) Part I & II
  - Ghana Water and Sewerage Corporation Act, 1965 (Act 310)
  - Rivers Act, 1903 (Cap.226)
  - Water Resources Commission Act, 1996 (Act 522)

1.4.3 International Obligations

The Government of Ghana recognizes its responsibilities for global and regional environmental issues and upholds the principles and regulations contained in international agreements and conventions, including those pertaining to the ECOWAS protocols and agreements. These include:

- Convention for Cooperation in the Protection and Development of the Marine and Coastal Environment of the West, Central and Southern Africa Region (Abidjan convention), 2017
- Convention on Biological Diversity.
- Bamako Convention, 1998.

- Agenda 2030 for Sustainable Development (2015-2030)
- United Nations Framework Convention on Climate Change, 1992
- Convention on the Conservation of Migratory Species of Wild Animals, 1979
- Convention Concerning the Protection of World Cultural and Natural Heritage, 1972
- Convention on Wetlands of International Importance, Especially as Waterfowl Habitats, (Ramsar Convention), 1971
- Convention on Fishing and Conservation of the Living Resources of the High Seas – Geneva, 1958
- Africa Convention on the Conservation of Nature and Natural Resources, 2014
- Africa Union Agenda 2063 (2013-2063)
- Gaborone Declaration on Sustainability in Africa, 2012
- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, 1992
- The Rio Declaration and Agenda 21 on Environment and Development, 1992
- The Rotterdam Convention Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, 1998
- The Stockholm Convention on Persistent Organic Pollutants is an international environmental treaty, 2001

Among others.

CHAPTER 2

Policy Vision and Guiding Principles

2.1 Vision

Sustainable plastics management through Science, Technology and Innovation for the benefit of all.

2.2 Policy Aim

Comprehensively manage plastics to address current environmental challenges and also as a vehicle for sustainable development and circular economy. Policy is to Comprehensively manage plastics to address current environmental challenges and also as serve a vehicle for sustainable development.

2.3 Policy Objective

The main objective of the National Plastics Management Policy is to grow the economy, create jobs and protect the environment to ensure sustainable development. The policy will also develop a road map to progressively reduce the use of plastics, recover, recycle and re-manufacture plastics. Strategic planning tools will be developed and made available for efficient collaborative planning and operations, allowing for the creation of a vibrant system to reduce, recover and reuse plastics.

The specific objectives:

- Promote awareness creation and public education.
- Build capacity for sustainable plastics management.
- Enhance the adoption of innovative technologies to deal with plastics.
- Identify innovative sources of financing for plastics management.
- Promote effective Institutional Coordination, good governance and inclusiveness for effective plastics management.
- Progressively reduce and phase out some categories of plastics

2.4 Guiding Principles

The key principles that provide the basis for policy direction for the national response to plastic management in Ghana are in conformity with the national development agenda, existing national policies and in line with the statutes of the Republic of Ghana include the following:

- ***The principle of subsidiarity:*** to ensure participatory decision-making at the lowest appropriate level in society.

- ***The precautionary principle:*** that seeks to minimize activities that have the potential to negatively affect the integrity of the natural environment.

- ***The principle of Prevention***: prevention of environmental harm and remedy to environmental injury.

- ***The polluter pays principle***: The accepted practice that those who produce pollution should bear the costs of managing it to prevent damage to human health or the environment;

- ***The principle of inclusivity, equity and gender sensitivity***: fairness of treatment for women, men and vulnerable groups according to their respective needs.

- ***The principle of flexible response*** as future developments in technologies, markets, consumer choice and political uncertainties require flexible solutions that can succeed in a range of potential scenarios.

- ***The principle of horizontally and vertically integrated approaches*** at all levels, bringing together sectors, regions, districts.

- ***The principle of accountability***: Government is accountable for policy formulation, project implementation, monitoring compliance and enforcement. In this regard, government will identify and allocate necessary financial resources and roles to selected institutions in accordance with the Constitution of the Republic of Ghana.

2.5. Systemic Pillars / Key Cross-sectoral issues

The policy objectives can only be reached with an appropriate system in place that ensures success. Therefore, progress towards the objectives must rest on a firm foundation, namely the systemic pillars:

- ***Science, Technology and Innovation*****:** Ghana faces numerous challenges with information and data flow, including the quality of data, access to data, gathering, sharing and translation of that data. Technology transfer, funding of research and development and collaboration on research are key in establishing a meaningful dialogue between scientists and the users of knowledge to offer accessible and relevant resources to stakeholders and policymakers concerned with sustainable development.

- ***Finance***: Being identified as the most challenging limitation to more sustainable plastics management by both the public- and private-sector, as well as being recognized as a fundamental challenge characteristic of a recently emerged lower-middle income country, sustainable financing must be central to all actions and programmes emanating from this Policy.

- ***Information, Communication, Education and mainstreaming***: will ensure the longevity and sustainability of all actions and programmes propagated from this Policy. Community Participation must be mandatory and expected to be as vibrant and diverse as Ghanaian culture and society.

- ***Governance:*** accountability, enforcement and political will were found to be three critically limiting elements to more sustainable plastics management. Therefore, this Policy has been developed to create and ensure that this Policy will remain a living, breathing, relevant framework to guide action. This will be achieved through Monitoring and Evaluation (to ensure that the Strategic Actions detailed in this Policy are effectively and efficiently deployed in reaching this Policy's aim), Compliance Auditing and Review (to hold all implicated actors and institutions accountable for their necessary role in achieving this Policy) and Enforcement **(**Government will support awareness creation and

sensitization of stakeholders on environmental issues). It will also facilitate the development of an effective policy framework for collaboration with appropriate agencies to ensure environmental compliance and enforcement of the laws and regulations).

- ***Partnership*:** Partnership is necessary to enhance the collective ability of the country to implement the policy, improve synergies, and ultimately improve the effectiveness of all sustainable efforts. Pursuance to Article 36(9), of the 1992 Constitution, the state shall take appropriate measures needed to protect and safeguard the national environment for posterity and shall seek cooperation with other states and bodies for purposes of protecting the wider international environment for mankind. This Constitutional provision shall guide the policy with regards to seeking international cooperation.

2.6 Application

This policy shall guide the work of all Governmental, statutory, industry, non-governmental and civic entities which are involved in, or which may seek to become involved in importation and exportation, manufacturing, use, management, recycling and disposal of plastics, particularly activities addressing adverse impacts posed by plastics on the environment and human health.

This Policy makes clear that responsibility for sustainable plastics management occurs at all stages of the plastics life-cycle and along the entire product value-chain. All actors whose activities – economic or otherwise – are responsible for ensuring the sustainable management of plastics, as defined in this Policy and accompanying Implementation Plans.

CHAPTER 3

STRATEGIC ACTIONS

3.0 Strategic Actions of this Policy

The overarching aim of this National Plastics Management Policy is to address the challenges of comprehensive plastics management, therefore improving the state of the environment and public health, reducing future pressure on Ghana's natural resources and dependence on imported finished commodities, creating jobs and greatly contributing to socio-economic development especially at the base of the economic pyramid and amongst vulnerable community groups, therefore attributing to several of the United Nations Sustainable Development Goals (SDGs), of which the Republic of Ghana is signatory to.

According to a research conducted on Ghana's contribution to plastic waste by Albert Oppong-Ansah in December 2018, about 82% of Ghana's plastics waste could be readily recovered and recycled with existing technologies into value-addition products in high demand locally and within the West African region. A vibrant recycling industry in Ghana could recover nearly one million tonnes of waste plastics from the environment and landfills annually, to be recycled into basic-need products valued at 2 billion GHC per year, creating 5 million jobs across the economy. The Strategic Actions mandated in this Policy will create the strategic support necessary for both industry and agencies in Ghana for planning that leads to large-scale recycling of plastics that is market driven. Financing has been identified as the major constraint currently inhibiting both the public and private sectors. These Actions have been designed to create a synergistic framework to reduce investment risk and encourage both domestic and foreign investment into new Ghanaian enterprises, across the Republic.

This National Plastics Management Policy is built on four focus areas that, when used together, will achieve a comprehensive system for managing plastics and attribute to socio-economic development. The following strategic actions represent an integrated approach for systems-level structure and support to collectively enable the achievement of the four focus areas of this Policy:

(1) Behavioural change,
(2) Strategic planning and cross-sectoral collaboration,
(3) Resource mobilization towards a Circular Economy, and
(4) Good governance, inclusiveness and shared accountability.

Foremost, this Policy adopts the Waste Hierarchy, accepting that, the greatest challenges created by plastics on the economy, the environment and public health are incurred at the waste phase of the plastics lifecycle

The options for sustainably managing plastics are many and varied, and will be adopted as a package of synergistic strategies to most efficiently achieve the aim of comprehensive plastics management as a tool for sustainable development.

Table 1 Interlocking & Reinforcing Strategic Actions in four Focus Area

Focus Area 1: Behavioural Change

Strategic Actions

1.1. Development of a National Communications, Education and Mainstreaming Strategy

1.2. Development of School Curriculum & School Related Infrastructure

1.3. Promotion of Alternative Materials

Focus Area 2: Strategic Planning & Cross-sectorial Collaboration

Strategic Actions

2.1. Establishment of Collection, Recovery, Recycling and Re-Manufacturing Targets

2.2. Development of National, Regional, District and Local Action Plans.

2.3. Build capacity (logistics and Infrastructure) for Plastics Collection, Recovery, Recycling and Re-Manufacturing.

2.4. Development of Industry and Institutional Plans

2.5. Promotion of local research and development (R&D) in plastic management.

2.6. Establishment of a Plastics Trading Platform & Resource Locator.

Focus Area 3: Innovative Resource Mobilization towards a Circular Economy

Strategic Actions

3.1. Development and implementation of a Resource Mobilization Strategy

3.2. Establishment of a Certification System and Database

3.3. Establishment of an Extended Producer Responsibility Scheme

3.4. Operationalization of the Environmental Tax Regime (Act 863)

Focus Area 4: Good Governance, Inclusiveness & Shared Accountability

Strategic Actions

4.1. Establishment of Green Public Procurement Standards

4.2. Establishment and Operationalization of the Resource Recovery Secretariat

4.3. Development of a robust regulatory framework

4.4. Establishment of a mechanism for phasing out most hazardous plastics grades and product applications

3.1. Focus Area 1 - Behavioural Change

The first focal area, *Incite Behavioural Change*, is of paramount importance to the achievement of the aim of this Policy because it provides a point of urgency and continuity to ensure that viable programs are sustained and continuously improved upon, over time.

There are three key things to consider to make change happen, Value systems, Behaviour and Attitude. Value systems influence behaviour which in turn influence attitudes. To ensure that the strategy is efficient, these will be tackled simultaneously.

Societal behavioural change starts with the youth; understanding this, a first priority is to ensure that every Ghanaian child, every year learns more about why sustainable and integrated plastics management is important for the environment and public health, and learns practical strategies for sustainable plastics waste management.

These activities must be accompanied with the necessary infrastructure to allow source separation of waste in all public and commercial institutions, especially academic institutions.

Highly diversified communications needs will be identified and addressed for all segments of Ghanaian society. Creative marketing strategies will be employed to deliver effective messaging in all activities that a Ghanaian and visitor may find themselves engaged in. Messaging will pull on the sense of reason, moral correctness and national pride by plainly articulating the negative impacts that improper plastics pose on quality of life, in a tangible format, and offer practical and accessible approaches for sustainable plastics management.

Adopting plastics waste reduction as the highest priority, consistent strategies will be employed to incentivize and support continual reduction of avoidable plastics, especially single-use plastics and thin-film carrier bags, pouches and sachets. The provision of and encouragement for alternatives to such wasteful products will be of paramount importance.

This will be achieved through the following strategies;

- Development of a National Communications, Education and Mainstreaming Strategy
- Development of School Curriculum & Infrastructure
- Promotion of Alternative Materials

3.1.1. Development of a National Communications, Education and Mainstreaming Strategy

To achieve the above strategy the underlisted actions will be taken:

1. Develop, disseminate and implement the National Communication Strategy using all National Outlets as key instruments.

2. Align and support the National Sanitation Campaign

3. Diversify the National Sanitation Campaign into National, Regional, District and Local Action Plans.

4. Mandate Private Sector to incorporate the Communication Strategy in their Annual Plastic Waste Management Plans.
5. Promote Source separation of valuable plastics components to achieve economic efficiency and social inclusion in plastic waste collection and recovery.

3.1.2. Development of School Curriculum & School Related Infrastructure

To achieve the above strategy the underlisted actions will be taken:

1. Review and assess National School Curriculum at all levels of education, especially at the basic school level, to include the 4Rs (Reduce, Reuse, Recover and Recycle) as well as the environmental, social and human health impacts from the improper management of plastic wastes.

2. Develop training manuals on the reviewed School Curriculum on plastics management for teachers.

3. Institute practical and innovative plastic waste management programmes in schools.

4. Develop the requisite infrastructure along the entire value chain of plastics management.

3.1.3. Promotion of Alternative Materials

To achieve the above strategy the underlisted actions will be taken:

1. Support companies (financial and non-financial) producing alternatives to plastic products to be included in the Green Procurement Guidelines and in their Institutional Plastics Management Plans.

2. Support campaigns that create awareness and access to reusable products.

3. Support programmes and initiatives that increase access to potable water sources for communities, therefore minimizing the need for packaged water.

4. Support and encourage research and development of new materials and product applications to replace the most hazardous and negatively impacting plastics.

3.2. Focus Area 2 - Strategic Planning and Inter-sectorial Collaboration

The second focal area, *Strategic Planning and Inter-Sectorial Collaboration* unlocks the true value of waste materials by optimizing collection, transportation and processing operations. This will further lead to minimizing costs and optimizing profits that will enable new enterprises in the public, private and informal sectors to naturally emerge to fill a bankable need.

State-of-the-art models have shown that the greatest costs in a material recovery scheme is the collection of low-value commingled wastes to be hauled over long distances, processed in high-capital cost and highly automated systems, which are incongruous with the current state of development in Ghana. With the current state of Ghana's economy of over 90% of all jobs in the informal sector, there stands a great opportunity to enable a parallel material recovery scheme incorporating both the formal and informal sectors.

Strategic planning tools will be developed and made available for efficient collaborative planning and operations, allowing for the creation of a vibrant resource recovery system to provide the services, technologies and tools needed to achieve this Policy strategy.

Synergies will be pursued between cities and rural areas, among regions, across the public sector and the private sector, including the informal sector. This Policy calls on all stakeholders to 'play your part' in the capacity of your core functions to Ghana's economy and social life.

This will be achieved through the following strategies;

- Establishment of Collection, Recovery, Recycling and Re-Manufacturing Targets
- Development of National, Regional, District and Local Action Plans
- Development of Industry and Institutional Plans
- Promotion of local research and development (R&D) in plastic management
- Establishment of a Plastics Trading Platform & Resource Locator

3.2.1. Establishment of Collection, Recovery, Recycling and Re-Manufacturing Targets

To achieve the above strategy the underlisted actions will be taken:

1. Undertake study to establish baseline data for plastics.

2. Develop National, Regional and Local indicators and targets for plastics collection, recovery, recycling and re-manufacturing.

3. Develop a comprehensive Monitoring and Evaluation Plan to track progress and reporting.

3.2.2. Development of National, Regional, District and Local Action Plans

To achieve the above strategy the underlisted actions will be taken:

1. Mainstream plastics management into the National Development Planning Framework for adoption by all Sectors and MMDAs.

2. Submit Annual Plastic Waste Management Action Plans to the Resource Recovery Secretariat.
3. Monitor implementation of the Plans and produce an Annual Report.

4. Train and build capacity of MMDAs on the development of Plastic Waste Management Action Plans and relevant targets.

3.2.3. Build capacity (logistics and Infrastructure) for Plastics Collection, Recovery, Recycling and Re-Manufacturing.

1. Support formalized private sector companies in the establishment and operation of recycling and remanufacturing enterprises.

2. Work with the Private sector to develop innovative business plans and models.

3. Create and support opportunities for greater efficiencies, higher recovery and more cost-effective services across industries and regions through Public Private Partnerships (PPPs).

4. Incentivize institutions and companies that are best performing in sustainably managing plastic wastes through provisions in the Green Public Procurement Guidelines, Tax incentives for import of recycling equipment, Extended Producer Responsibility scheme, and Plastics Certificate scheme.

3.2.4. Development of Industry and Institutional Plans

To achieve the above strategy the underlisted actions will be taken:

1. Submit Annual Plastic Waste Management Action Plans to the Resource Recovery Secretariat.

2. Review and harmonize individual plans for local, regional, national and industrial efficiencies.

3. Monitor the implementation of the waste management action plans and generate reports.

4. Train and build capacity of Private sector on the development of Plastic Waste Management Action Plans.

3.2.5. Promotion of local research and development (R&D) in plastic management

To achieve the above strategy the underlisted actions will be taken:

1. Support local research institutions, Academia, Technical and Vocational Education and Training (TVET) to identify best practices, technologies and materials in partnership and collaboration with foreign research institutions.
2. Create incentives and opportunities for adoption and uptake of research ideas.
3. Allocate a percentage of the National Plastics Management Fund to Research and Development.

3.2.6. Establishment of a Plastics Trading Platform & Resource Locator

To achieve the above strategy the underlisted actions will be taken:

1. Develop a free, open-source and up-to-date online platform to optimize trade and operational efficiency.

2. Develop a tool to assist both the Public and Private sector in planning and decision making by providing better insight into the locations and distribution of waste resources, and facilities for processing.

3. Sensitize stakeholders on the use of the Platform.

3.3. Focus Area 3 - Innovative Resource Mobilization towards a Circular Economy

This focal area, *Resource Mobilization*, is the fuel to run the motor driving towards the achievement of this Policy's aim and Strategic Actions. Financing has been identified as the major constraint inhibiting both the public and private sectors from achieving more comprehensive plastics management. Current financial models are inadequate, in part, because of the state of informality of the economy, including high rates of poverty compounded by rapid population growth, internal and external migration to dense urban centres, and ever-growing quantities of mismanaged plastics characteristic of a rapidly growing economy.

More innovative strategies are needed to finance solutions to the ever-growing plastics crises, with dedicated attention given to the financial needs of the lowest income groups. Strategic Actions for innovative resource mobilization have been designed with them in mind.

A vibrant recycling industry in Ghana could recover nearly one million tonnes of waste plastics from the environment and landfills annually, to be recycled into basic-need products valued at 2 billion GHC per year, creating 5 million jobs across the economy. The creation of a new industry demands coherent investment up-front. Once those investments take root, the resulting economic activity will be wide-spread and financial models diversified.
This will be achieved through the following strategies;

- Development and Implementation of a Resource Mobilization Strategy
- Establishment of a Certification System and Database
- Establishment of an Extended Producer Responsibility Scheme
- Operationalization of the Environmental Tax Regime (Act 863)

3.3.1. Development and Implementation of a Resource Mobilization Framework

To achieve the above strategy the underlisted actions will be taken:

1. Develop a Resource Mobilization Strategy.
2. Monitor the implementation of the Resource Mobilization Strategy.

3. Engage domestic and foreign actors to fund needs/gaps identified in the Resource Mobilization Strategy.

3.3.2. Establishment of a Certification System and Database

To achieve the above strategy the underlisted actions will be taken:

1. Develop and disseminate eligibility criteria for plastics management for certification along the value chain.

2. Create database on all certified waste collectors and recyclers, to ensure that their operations are compliant to environmental regulations

3. Undertake periodic monitoring to ensure enforcement and compliance

3.3.3. Establishment of an Extended Producer Responsibility Scheme

To achieve the above strategy the underlisted actions will be taken:

1. Develop a comprehensive EPR scheme, taking into consideration the already existing Plastic Waste Recycling Fund.
2. Create the enabling environment for the Private sector participation through the development of an appropriate Legislative Instrument for the EPR scheme.
3. Undertake Cost-Benefit-Analysis (CBA) of options identified under the EPR scheme.
4. Support the Private Sector to set-up take-back, collection centres.

3.3.4. Operationalization of the Environmental Tax Regime (Act 863)

To achieve the above strategy the underlisted actions will be taken:

1. Clearly define the modalities of disbursement of the Fund in the amended Act.
2. Create accountability and transparency in the disbursement of the Fund.
3. Monitor plastic importers and manufacturers to ensure compliance with the directives of the Act.
4. Produce annual reports on the operationalization of the environmental tax

3.4. Focus Area 4- Good Governance, Inclusiveness and Shared Accountability

Good Governance, Inclusiveness & Shared Accountability, is the motor and the muscle that will allow and ensure that this Policy does not remain plain words on pages, but becomes part and parcel of everyday life, rapidly and sustainably transforming the way plastics are managed in Ghana.

A Resource Recovery Secretariat will be established to provide a centralized point of agency for the achievement of this Policy, its Strategic Actions and any other programmes or activities that may be inspired by it. A Secretariat is necessary to overcome the 'fall through the cracks' syndrome that is globally characteristic of plastics management, as a widely cross-cutting issue.

The Government will take the lead in supporting a burgeoning domestic plastic recycling industry, inculcating sustainable consumption and consumption practices in Ghana's economy. Products and services that contribute to the achievement of this Policy's aim will be prioritized in all Government procurement, which will be guided by annual publication of Green Public Procurement Guides. Hazardous plastics and products applications will be rigorously investigated and prohibited from use in Ghana.

This will be achieved through the following strategies;

- Establishment of Green Public Procurement Standards
- Establishment and Operationalization of the Resource Recovery Secretariat
- Development of a robust regulatory framework
- Establishment of a mechanism for phasing out most hazardous plastics grades and product applications

3.4.1. Establishment of Green Public Procurement Standards

To achieve the above strategy the underlisted actions will be taken:

1. Develop green Public procurement guidelines in collaboration with the Public Procurement Authority.
2. Monitor compliance with green Public procurement guidelines.
3. Produce bi-annual reports on implementation of guidelines.
4. Support local businesses that recycle plastics and businesses that use recycled plastic products, particularly giving credit to companies obligated under the Extended Producer Responsibility Scheme and for Institutional Waste Management Action Plans.

3.4.2. Establishment and Operationalization of the Resource Recovery Secretariat

To achieve the above strategy the underlisted actions will be taken:

1. Establish a Resource Recovery Secretariat which will be responsible for coordinating the implementation of this Policy.
2. Support the operationalization of the Resource Recovery Secretariat (RRS)
3. Create a coordination platform.
4. Support the RRS in the development of Annual Action Plans.

3.4.3. Development of a robust regulatory framework

To achieve the above strategy the underlisted actions will be taken:

1. Support existing regulatory institutions to effectively implement this policy.
2. Mainstream gender and ensure inclusiveness of vulnerable groups.
3. Undertake periodic review of existing Policy and legal frameworks to ensure consistency with the objectives of this Policy.
4. Organize knowledge-sharing programmes for regulatory institutions.

3.4.4. Establishment of a mechanism for phasing out most hazardous plastics grades and product applications

To achieve the above strategy the underlisted actions will be taken:

1. Classify all Plastic products based on approved National standards.
2. Establish a committee representing Academia, Public and Private Sector to evaluate the science-to-date on hazardous impacts of plastics and provide a written review for the consideration of the Minister responsible for the Environment.

3. Undertake periodic analysis of the cost of the hazards on health and economic productivity, with particular concern for the economic value of natural resources.

4. Conduct a detailed study or assessment on the environmental and human health risks of different classes of bio-degradable additives, especially in connection with migration of chemicals into food and beverages
5. Develop roadmap for improving the standard for the recycling of plastic waste andphasing-out of hazardous plastics.

Table 2 Challenges and Desired Outcome of sustainable plastics management

VALUE CHAIN	CHALLENGE	DESIRED OUTCOME	STRATEGIC ACTION
Importers of Finished Goods	Imported finished plastic products are not captured under the existing Environmental Tax (Act 863) and therefore do not generate revenue into the Plastics Recycling Fund	Equitable taxation on imported plastic products and domestic manufacturers. Appropriate tax incentives on import of plastic raw materials for local production	- Institute Environmental Tax Regime
Manufactures &*Importers of Raw Materials*	Disparity in tariffs that disadvantages local manufactures as against importers of finished goods	Equitable taxation on imported plastic products and domestic manufacturers. Job Creation	- Environmental Tax Regime - Robust regulatory framework
	Limited recycling technology locally	Steadily increasing capacity of the private and informal sector to collect, recover and recycle plastics. Availability of recyclates for the production of secondary plastic products	- Local R&D for Circular Economy - Locally-appropriate technologies Innovative technologies
	Inadequate data on production, consumption, imports, exports and waste collected	Database, collection targets and accountability	- Trading platform - Certificate scheme & database
	High energy tariffs & limited investment support	A large annually revolving fund	- Extended Producer Responsibility scheme
Plastic Users	Many small producers operate outside of compliance placing the full burden of taxation on large companies	Strong regulatory framework and efficient implementation of this Policy.	- Certificate scheme & database - Robust regulatory framework
	Absence of clear accountability or direction from government	Increased collaboration between the public-, private- informal-, and civil-society sectors, and between regions, cities and towns.	Extended Producer Responsibility scheme The creation of resource recovery secretariat.
	Defunct Plastics Recycling Fund (Act 863)	Functional recycling fund	- Environmental Tax Regime
	Lack of public interest in Waste Management	Increase public interest in the collection and management of plastic waste	Recycling Targets Industry Action Plans Awareness creation and education
Consumers	Poor public attitudes and general knowledge on plastic waste	Widespread societal consciousness and sense of responsibility that plastic is a resource and mismanaged plastic is a hazard.	- National Communication and Mainstreaming Strategy - Mainstreaming sustainable plastics management in the education curriculum
	Indiscriminate Littering	Reduced occurrence of littering and other forms of improper plastics	- National Communication Strategy - School Curriculum
	Non separation of waste at source	Separation of waste at source	-Institute source separation through the provision of bins and awareness creation.
	Lack of logistics and collection points for segregated plastics	Strategic planning and accountability	-Provision of bins, waste separated compacters and collection centres

VALUE CHAIN	CHALLENGE	DESIRED OUTCOME	STRATEGIC ACTION
	Low incentives to shift from expensive and low convenience alternatives for plastics products and packaging	A large annually revolving fund for sustainable plastic waste management.	- Promote local R&D in plastic management and Circular Economy -Promote alternative materials
Waste Pickers	Inadequate incentives for informal collectors	Job creation	- Locally-appropriate incentives and systems
	Low visibility and integration between pickers and recyclers	Increased collaboration between the public-, private- informal-, and civil-society sectors, and between regions, cities and towns.	- Trading Platform - Certificate scheme & database
Collection & Disposal	Inadequate finances for plastic management	A large annually revolving fund for sustainable plastic waste.	- National Resource Mobilization Strategy - Extended Producer Responsibility -Tax Regime
	Incomprehensive waste collection services	Ending ad hoc reactionary approaches to plastics management in Ghana;	- Government Action Plans - Resource Recovery Secretariat
	Low level of waste segregation at source	Increased collaboration between the public-, private- informal-, and civil-society sectors, and between regions, cities and towns Buyback system for job creation	- National Communication and mainstreaming strategy - Government Action Plans - Plastics Waste Management Plans for institutions and industry
	Inadequate structures and facilities for collection and disposal of plastics	Steadily increasing plastics recovery and recycling, year after year, consistent across the nation; Steadily increasing capacity of the private sector to collect, recover and recycle plastics, working under sustainable financial models with positive revenue generation.	- Recycling Targets - Government Action Plans - Plastics Trading Platform
	Low level of incentive to attract investment under Plastics management	Steadily increasing quantity, quality and variety of products made from recycled plastics to meet domestic demands for basic-needs goods and high-value, long-life infrastructure products, reducing future pressure on Ghana's natural resource and reducing climate change pressures.	- Recycling Targets - Industry Action Plans - locally-appropriate recovery technologies - Extended Producer Responsibility
	High collection & Transportation cost	A large annually renewing fund for sustainable plastic waste. Steadily increasing capacity of the private and informal sector to collect, recover and recycle.	- Extended Producer Responsibility scheme - Locally-appropriate recovery and recycling technologies and service models. -Establishment of collection points close to community

	Ineffective coordination between cities and regions	Increased collaboration between the public-, private- informal-, and civil-society sectors, and between regions, cities and towns.	- Government Action Plans - Establish a Resource Recovery Secretariat
Recyclers Governance	Limited logistics for collection	Steadily increasing plastics recovery and recycling.	- Government Action Plans - Resource Mobilization Strategy
	Inadequate recycling facilities and technical know-how	Steadily increasing capacity of the private and informal sector to collect, recover and recycle plastics.	- Locally appropriate technologies - Extended Producer Responsibility
	Absence of appropriate marketing strategy for recycled plastics products	Companies working under sustainable financial models with positive revenue generation.	- Trading Platform - Green Public Procurement
	Low investment in the recycling industry.	A large annually renewing fund for sustainable plastic waste management that is managed judiciously and efficiently, maximizing value for money in funded programmes.	- Recycling Targets - Resource Mobilization Strategy - Environmental Tax Regime
	Absence of accountability and transparency within the plastics industry	Strategic planning and accountability of this Policy starting at the national level and adopted and localized at the regional and local levels and within industry and institutions.	- Industry Action Plans - Certificate scheme & database - Resource Recovery Secretariat
Governance	Inadequate planning in the plastic value chain	Strategic planning and accountability of this Policy starting at the national level and adopted and localized at the regional and local levels and within industry and institutions.	- Recycling Targets - Government Action Plans - Resource Mobilization Strategy
	Ineffective coordination among sectors, actors and government agencies	Increased collaboration between the public-, private- informal-, and civil-society sectors, and between regions, cities and towns.	- Extended Producer Responsibility - Resource Recovery Secretariat
	Poor technology adoption in the plastic industry	Steadily increasing capacity of the private and informal sector to collect, recover and recycle plastics.	- Local R&D - Locally-appropriate systems
	Inadequate legislation on plastics and weak enforcement of existing legislation	Strengthen Regulatory framework for the implementation of the policy	- Robust Regulatory Framework - Banning of hazardous plastics
	Unattractive policy incentives in plastic management	A large annually renewing fund for sustainable plastic waste management that is managed judiciously and efficiently, maximizing value for money in funded programmes	- Recycling Targets - Action Plans - Extended Producer Responsibility - Green Public Procurement

CHAPTER 4

IMPLEMENTATION ARRANGMENTS

4.1. Institutions – Roles and Responsibilities

There are many institutions whose activities and mandates touch on areas of plastics management. These institutions will be called upon to support Government in the effective and timely achievement of the objectives of the Policy.

4.1.1 Public Sector

The significance of the institutional framework is in the clear separation of roles of the different actors. This separation starts at a constitutional level among the different arms of Government namely; the executive, the legislature, and the judiciary.

This Policy, therefore, seeks to create a clear distinction between the roles of the different arms of Government, regulatory institutions, private-sector companies and other stakeholders. The following institutions responsible for key sectors that play roles in the implementation of the policy are listed below:

i. Ministry of Environment, Science, Technology and Innovation
ii. Ministry of Sanitation and Water Resources
iii. Ministry of Local Government and Rural Development
iv. Ministry of Finance
v. Ministry of Works and Housing
vi. Ministry of Education
vii. Ministry of Health
viii. Ministry of Food and Agriculture
ix. Ministry of Fisheries and Aquaculture Development
x. Fisheries Commission
xi. Ministry of Lands and Natural Resources
xii. Ministry of Information
xiii. Ministry of Gender, Children and Social Protection
xiv. Ministry of Tourism, Arts and Culture
xv. Parliament of Ghana
xvi. National Development Planning Commission
xvii. National Commission for Civic Education

4.1.1.1 Ministry of Environment, Science, Technology and Innovation

The Ministry of Environment, Science, Technology and Innovation (MESTI) is mandated among others to promote and facilitate the integration of environmental issues, sustainable management of human settlements, science, and technology into the policy, planning and national development process.

The MESTI has the goal of ensuring the accelerated socio-economic development of the nation through the formulation of sound policies and regulatory framework to promote the use of appropriate, environmentally friendly, scientific and technological practices.

To achieve this, the MESTI operates through the following; Council for Scientific and Industrial Research (CSIR) and its 13 institutes, Ghana Atomic Energy Commission (GAEC),

Environmental Protection Agency (EPA), Land Use and Spatial Planning Authority (LUSPA) and the Nuclear Regulatory Authority (NRA) and National Biosafety Authority (NBA).

The MESTI will collaborate with other sector Ministries to ensure the application of science, technology and innovation (STI) for the improvement and protection of the environment from all hazards and otherwise negative impacts caused by improper plastics management.

The MESTI will act as the coordinating Ministry, establishing and directly supporting and overseeing the Resource Recovery Secretariat created in this Policy, which is mandated to ensure the efficient and effective achievement of this Policy's aim and all Strategic Actions detailed within, including holding all identified actors accountable.

4.1.1.2 Ministry of Sanitation and Water Resources

The Ministry of Sanitation and Water Resources (MSWR) has as its main functions the formulation and coordination of policies and programmes for the systematic development of Ghana's infrastructure requirements with respect to water supply and sanitation. The Ministry through its implementing agencies in line with its mandate, will be responsible for planning, coordinating and monitoring programmes for plastics waste management.

Therefore, the MSWR is called upon to streamline issues of sustainable plastics management within its budget and Medium-term Development Plans. Specifically, the MSWR is requested to adopt ownership of the Strategic Actions of this Policy that pertain to plastics waste management and water supply, such as promoting and upholding recycling targets at the national and local levels and pursuing a transition to a potable water supply that is not predominantly packaged in single-use plastics.

4.1.1.3 Ministry of Local Government and Rural Development

The Ministry of Local Government and Rural Development (MLGRD) exists to promote the establishment and development of a vibrant and well-resourced decentralization system of local government for the people of Ghana, to ensure good governance and balanced rural development. The Ministry has the goal of facilitating a clean and healthy environment.

The MLRD is responsible for the ten Regional Administrations in Ghana. These regions have Regional Coordinating Councils and are sub-divided into 254 metropolitan, municipal and district areas (MMDAs) each with an administrative assembly. The MLGRD through the pursuit of its mandate will ensure the mainstreaming of this policy within the local Government structure.

4.1.1.4 Ministry of Finance

The Ministry of Finance (MoF) formulates and implements sound fiscal and financial policies and improves public financial management. The MoF has created a Natural Resource & Environment Unit to oversee, coordinate and manage the financing of and support to natural resources.

The MoF will be responsible for effective mobilization of public, private, domestic and external finance to support the implementation of this Policy. Particularly, the National Designated Authority of the MoF will lead all correspondence between Ghana and the Green Climate Fund and liaise with other Multilateral Environmental Funds for the implementation of this Policy. These activities and budgets are to be organized and defined in the National Resource Mobilization Strategy.

4.1.1.5 Ministry of Works and Housing

The Ministry of Works and Housing has the overall responsibility for hydrological services, including management of storm drains, provision of infrastructure for flood control, dredging of lagoons and desilting of drains to reduce the incidence of flooding.

4.1.1.6. Ministry of Education

The Ministry of Education (MoE) is responsible for research, apprenticeship and skills development, and capacity building. Therefore, MoE has a crucial role to play in behavioural change of Ghanaian youth, research and development into new and innovative practices and technologies. In achieving these high aims, curricula will necessarily need to be revised to cover topics of sustainable plastics management as well as to inspire and motivate skills development in innovative technologies and business models for more sustainable management of plastics in society.

4.1.1.7 Ministry of Health

The Ministry of Health is responsible for the improvement of the health status of all people living in Ghana thereby contributing to Government's vision of universal health coverage and a healthy population. The Ministry of Health, working in partnership with its agencies and stakeholders aims at improving the human capital thus "creating wealth through health" through the development and implementation of proactive policies that will ensure improved health and vitality.

4.1.1.8 Ministry of Food and Agriculture

The Ministry of Food and Agriculture is the government agency responsible for the development and growth of agriculture in the country. The jurisdiction does not cover the cocoa, coffee or forestry sectors.

Its mission is to promote sustainable agriculture and thriving agribusiness through research and technology development, effective extension and other support services to farmers, processors and traders for improved livelihood

4.1.1.9 Ministry of Fisheries and Aquaculture Development

The Ministry of Fisheries and Aquaculture Development is the Ministry mandated to carry out development interventions to move the fisheries sector and the fisheries industry to contribute efficiently to the overall development of the Ghanaian economy.

4.1.1.10 Fisheries Commission

The Fisheries Commission is the implementing agency of the Ministry of Fisheries and Aquaculture Development (MoFAD). The commission is constituted to be the actualizing force behind policies and regulations established by MoFAD. The commission is therefore responsible for all monitoring, control, surveillance, evaluation, and compliance functions in all areas of fisheries development and management in Ghana, including fish health, post-harvest activities, safety, and quality assurance.

4.1.1.11 Ministry of Lands and Natural Resources

The Ministry of Lands and Natural Resources was established under Section 11 of the Civil Service Law 1993 PNDC Law 327. The Ministry as part of its mandate is to ensure the sustainable management and utilization of the nation’s lands, forests and wildlife resources as well as the efficient management of the mineral resources for socio-economic growth and development. Ministry

4.1.1.12. Ministry of Information

The Ministry of Information is mandated to empower the citizens of Ghana through information dissemination to ensure transparency and accountability in public policy and governance. MOI exists to ensure citizens take ownership of programmes, policies and activities necessary for social and economic transformation of the country by building a two – way communication channel between the people and government.

4.1.1.13. Ministry of Gender, Children and Social Protection

The Ministry of Gender, Children and Social Protection formerly known as the Ministry of Women and Children's Affairs (MOWAC) was established in January 2001. This was as a result of the realization by government that, there was an urgent need for the establishment of a high-level body which would specifically be responsible for coordinating national response to gender inequality. Women and children are disproportionately affected by insufficient waste management services, including Plastics waste.

The Ministry through the promotion of activities that address the rights of women and children will ensure the policy advancing the status of women and ensuring the growth, survival and development of our children. The Ministry will ensure job creation through Plastics waste management to address gender inequality.

4.1.1.14. Ministry of Tourism, Arts and Culture

The Ministry of Tourism, Arts and Culture has been realigned through Executive Instrument (E.I. 2013) to provide a firm, stable

The Ministry of Tourism, Arts and Culture has been realigned through Executive Instrument (E.I. 2013) to provide a firm, stable policy environment for effective mainstreaming of Ghanaian culture into all aspects of national life and to ensure the strong emergence of a vibrant creative economy to improve and advance the tourism industry. The Ministry is to facilitate the interface between government, implementing bodies in tourism, culture and the Creative Industries as well as international civil society partners. The Ministry through the pursuit of its mandate will ensure that plastic wastes are effectively managed to not affect environmentally friendly tourism especially in communities.

4.1.1.15. Parliament

Under article 268(1) of the Constitution, the entry into petroleum agreements for the exploration, development and production of petroleum is subject to ratification by parliament. The role of parliament will be to ensure that agreements pertaining to the management of plastics and plastic wastes are properly ratified in line with the objectives of this policy.

4.1.1.16. National Development Planning Commission (NDPC)

The National Development Planning Commission (NDPC) is responsible for, among others, making proposals for the development of multi-year rolling plans taking into consideration the resource potential and comparative advantage of the different districts of Ghana.

The NDPC also makes proposals for the protection of the natural and physical environment. The NDPC will support the implementation of the policy by ensuring that environmental issues associated with plastic waste are mainstreamed into national development plans.

4.1.1.17. National Commission for Civic Education

The National Commission for Civic Education (NCCE) is an independent, non-partisan governance institution, set up under Article 231 of the Constitution of the Republic of Ghana. The Commission works to promote and sustain democracy and inculcate in the Ghanaian citizenry, the awareness of their rights and obligations, through civic education.

The NCCE has 216 offices across Ghana, one in every district of the country, 10 regional offices and a national headquarters in the capital city, with approximately 1,700 staff nationwide, present in every community in Ghana.

The NCCE was established in 1993 under the National Commission for Civic Education Act, 1933 (Act 452). One of the five core functions of the NCCE mandated in Act 452 is: *to formulate, implement and oversee programmes intended to inculcate in the citizens of Ghana awareness of their civic responsibilities and an appreciation of their rights and obligations as free people.*

Therefore, this Policy calls on the NCCE to act as a foundational partner in achieving many of the Strategic Actions detailed in this Policy, particularly those Strategic Actions related to behavioural change and good governance and shared responsibility.

4.1.1.18 Ministry of Trade and Industry (MoTI)

The Ministry of Trade & Industry is the lead policy advisor to government on trade, industrial and private sector development with responsibility for the formulation and implementation of policies for the promotion, growth and development of domestic and international trade and industry. The Ministry is also the advocate for the private sector within government and is the principal agency responsible for monitoring and implementing the Government's private sector development programmes and activities.

Therefore, this Policy calls on MoTI to develop standards and Quality Systems to meet production requirements for local and international markets, encourage and facilitate the provision of public service by the private sector, as well as facilitate innovation and entrepreneurship.

4.1.2 Academic & Research Institutions

4.1.2.1 Academic Institutions

Universities will perform a vital role in advancing national sustainable plastics management. New curricula and academic programmes are needed to fill the identified knowledge, behavioural, technical and professional gaps relevant to a new plastics economy. Research is needed into new materials, technologies and management programmes to develop novel ideas and adapt global best practices to local circumstances. Academic institutions should be commissioned to develop and deploy capacity building programmes in the many areas of economic and social life implicated in this policy and to assess the efficacy of programmes initiated for the achievement of this Policy's aim.

Although there are a number of researchers carrying out waste management research in the various universities, a research diagnostic shows that there is a limited coherent approach to sustainable plastics management and development research. There seems to be much

duplication, huge geographical gaps in coverage, as well as gaps in sectors and thematic areas. Methodologies being used do not allow direct inter-comparison of data.

The absence of a national plastics management research agenda means that there is a lack of coordination and communication between different research institutes.

Current capacity for sustainable plastics management research remains low, especially in universities and their research institutes. This could be attributed to limited incentives and resources available for research. For example, many if not all, the universities lack adequate technologies and equipment necessary for research into environmental sanitation.

4.1.2.2. Research Institutions

CSIR was established by National Liberation Council (NLC) Decree 293 of October 10, 1968, amended by NLCD 329 of 1969, and re-established in its present form by Act of Parliament 521 (CSIR Act 521) on November 26, 1996. Currently, the CSIR exercises control over 13 research institutes nationwide.

The CSIR is mandated, inter alia, to pursue the implementation of government policies on scientific research and development; and to encourage in the national interest scientific and industrial research of importance for the development of agriculture, health, medicine, environment, technology and other service sectors and to encourage close linkages with the productive sectors of the economy.

The CSIR plays a key role in sustainable plastics management related research in various sectors of the economy. The CSIR also collaborates with relevant stakeholders, the ministries, departments, and government agencies (MDAs) and the universities and the civil society organizations (CSOs) on plastics-related issues and consultancy services.

4.1.3 Private Sector

The adverse effects of poor plastics waste management are already being felt in the private sector, particularly by plastics manufacturers and users, who are often blamed for the negative impacts caused by mismanaged plastics at the end of their useful life. The private sector has also demonstrated interest to expand the plastics recycling industry, which this Policy encourages.

Major players in the private sector include the Private Enterprise Federation, Association of Ghana Industries, Ghana Plastics Manufacturers Association, Sachet Water Producers Association, Recycling Companies, Accra Plastics Management Project and Plastics Waste Collectors Association, Micro-, Small-, Medium-Enterprises (MSME).

Particularly with the MSME, who currently are the most active in recycling plastics in Ghana, there exists a large opportunity to incentivize this group to increase recovery efficiency at small capital inputs.

4.1.4 Civil Society and Traditional Authorities

Civil Society Organizations (CSOs) and Traditional Authorities can play a role in advocating, mobilizing and holding dialogue with communities; contributing to holding the different players accountable with regard to plastics use and plastic waste management; participating in getting the voices of the poor into designing, monitoring and implementation of programmes associated with plastics management.

4.1.5 Faith-based Organizations

Faith-based Organisations have an enormous role to play in the timely and effective achievement of this Policy. Of great importance, Ghanaian culture is markedly religious, with over 90% of the population claiming attribution to either the Christian or Muslim faiths. The guiding text of both these religions, as well as the traditional faiths, makes clear and repetitive mention of the obligation of environmental stewardship on humankind.

This Policy calls on all spiritual leaders, of every faith and every stature, to review the Holy Texts instructing its followers on how to care for the environment, understood as God's gift, humankind's supplication, livelihood, wealth and well-being.

The faith-based organizations are being prioritized in this Policy because of their existing highly efficient network of communication, and because spiritual leaders are amongst the most highly regarded in Ghanaian society. As the message of stewardship is explicitly documented in all of the Holy Text, the spiritual leaders will be engaged to bring this insight and responsibility to their congregations

4.1.6 Development Partners

Development partners will play a collaborative role with the Ministry and relevant institutions to facilitate the effective implementation of this Policy. Many bilateral and multilateral agencies active in Ghana undertake a wide array of programmes in the sanitation, environmental remediation and natural resource preservation fields. All programmes introduced with activities related to plastics management should be designed and implemented within the framework established in this Policy so that efficiency, coordination and accountability are achieved.

In fulfilment of this Policy's aim, development partners will be called upon to support the Government of Ghana with resource mobilization to activate this Policy's strategic actions. Resources to be mobilized include financial resources, human resources and capacity building, and technological resources.

4.2 Conclusions

This Policy has been developed after critical analysis of the root causes of systemic failure to sustainably manage plastics in Ghana. The Policy recognises that all actors in the country – starting with each individual, every government agency, all businesses big and small, institutions and international partners, including faith-based institutions – have a critical role to play in radically transforming the way Ghanaians produce, use, discard, recover and otherwise manage plastics across their life-cycle, across the economy and across Ghana's diverse society.

The outcomes expected to result from the effective achievement of this Policy's Strategic Actions will address the root causes of unsustainable plastics management in Ghana, and the negative impacts on the environment, human health and the economy.

The full realization of the policy actions outlined in this National Plastics Management Policy will unlock economic incentives for source separation, collection, processing and recycling waste plastics into valuable resources, generating huge economic impacts and creating

millions of jobs, the majority of which are for the most vulnerable in society, including women, children, the elderly, disabled, immigrants and the urban poor among others.

4.3 The Way Forward

The adoption of this Policy is only the first step of a longer journey to carry Ghana from where she is today, where piles of plastic waste are to be found clogging storm water drains in all the major cities and polluting the beautiful beaches and forests, to a country prized for the mindfulness of her people to use plastics sparingly and to manage them responsibly at all phases in the plastics lifecycle.

A first priority will be to develop a National Roadmap for the adoption of this Policy and its Strategic Actions, to inform the development of Ghana's first Resource Mobilization Strategy. Concurrently, calls will be made to entrepreneurs, investors and donors, both domestic and foreign, to partner with Government to provide locally-appropriate technologies and services.

A robust regulatory framework will be set up to oversee the various activities mandated under this Policy, including the operationalization of the Resource Recovery Secretariat, which will be the muscle behind most other Strategic Actions.

A national Communication and Education Strategy with focus on school curriculum will be the first task of the Resource Recovery Secretariat, closely followed by the development of Green Public Procurement Guides and the National Action Plan.

Local and regional governments, industry and institutions will be given a year to localize the National Action Plan, while the Certificate Scheme and Database, Extended Producer Responsibility (EPR) Scheme and Environmental Tax Regime are operationalized.

The three driving factors of the policy are therefore the implementation plan, communication plan and a Monitoring and Evaluation Framework for the pragmatic achievement of this policy objectives.