



INTEGRATED WASTE MANAGEMENT INITIATIVE OF THE LOCAL GOVERNMENT: A CASE STUDY OF LAGOS, NIGERIA

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INTRODUCTION

- It is a known fact that the rate at which waste generation is growing requires urgent and concerted effort of all stakeholders.
- Lagos, like other major cities in developing world, is facing population explosion which implies surge in waste generation. This has serious negative impact on the air, water, land and, eventually, human health if not properly managed.
- The complexity, cost and coordination required to combat the menace has necessitated multi-stakeholder's involvement in all stages of waste stream, such as integrated approach to waste management in Lagos state.

BACKGROUND

Lagos is a coastal city with a landmass of 3,345km² and population of about 20 million people who lives and work in the city and being the commercial nerve centre of the nation, there are lots of activities going on daily with people migrating into the city everyday.



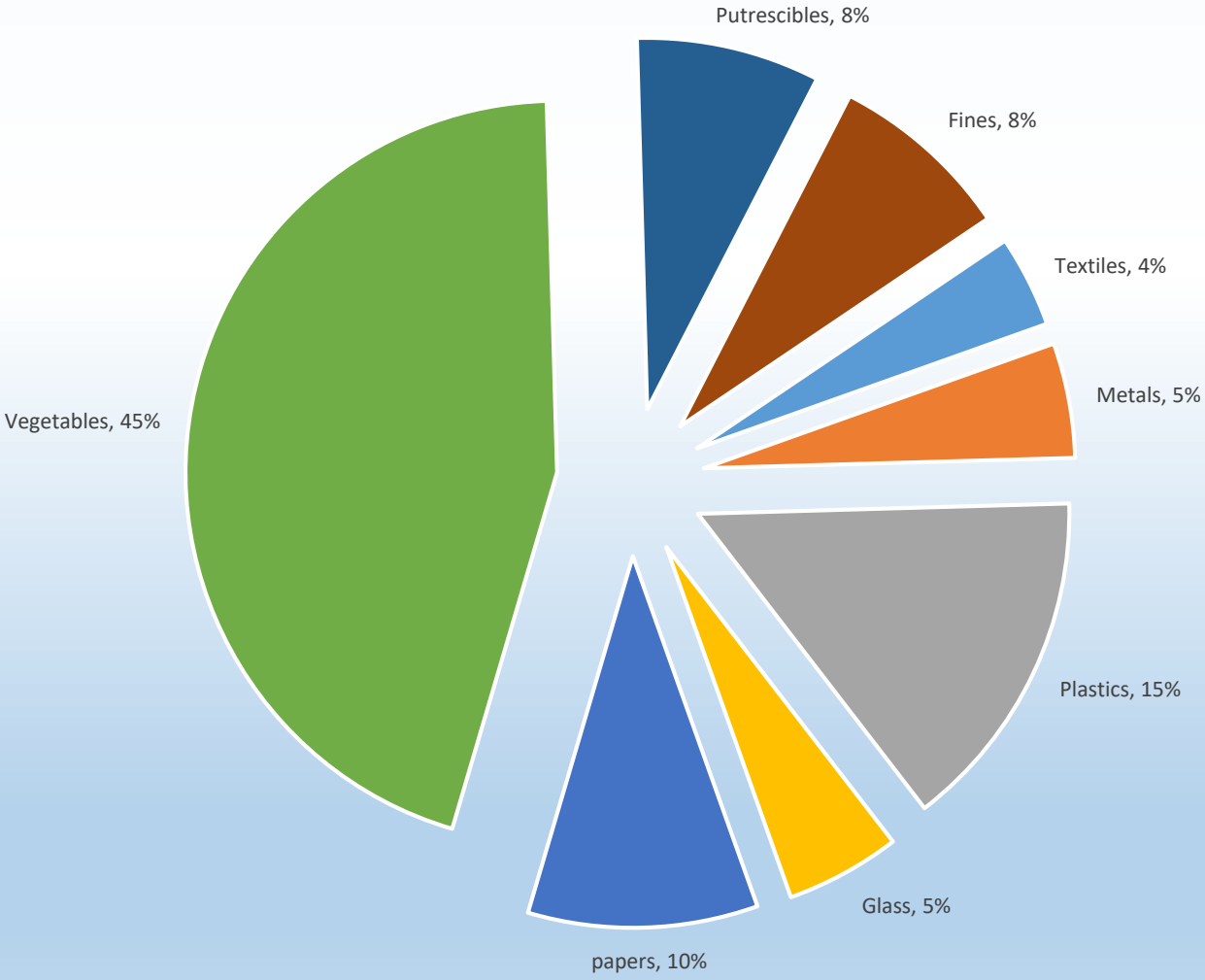
Background cont.

- With the increasing population, the volume of waste generated daily is about 10000 metric tonnes per day and were mostly landfilled. This is a poor use of resources which cost state government, commercial businesses and households huge financial burden.
- It also causes environmental damages with the uncontrolled emission of greenhouse gas such as methane CH₄ into the atmosphere.

Background cont.

- Waste being a natural consequence of human activities was once seen as a burden in our society; however, with the shift in attitude and a better understanding of global warming, sustainable consumption and recycling became the focus.
- The broad impact of climate change and the depletion of resources demands responsive solutions for the collection, separation and recovery process as well as converting discarded waste materials into new products to prevent waste of potentially useful materials.
- Thereby, reducing in significant quantity the consumption of natural resources and reducing the need for conventional waste disposal.

Lagos State Waste Analysis



■ Textiles ■ Metals ■ Plastics ■ Glass ■ papers ■ Vegetables ■ Putrescibles ■ Fines

GOVERNANCE STRUCTURE

- There are 20 Local Governments and 37 Local Council Development Areas in Lagos and same are statutorily responsible for refuse disposal activities.
- The complexities of the metropolis with limited land space for landfill site as well as boundary issues, refuse disposal became burdensome for the local government, hence the need for a central coordination of the waste management processes to ensure effective delivery of service for a clean and sustainable environment
- LAWMA was established to manage collection and dispose all categories of waste with future projections of transiting to a regulatory agency and building adequate capacity at the local government level.

LAWMA'S CORE AREAS OF FOCUS

- Domestic waste collection carried out under a PPP franchise
- Public waste collection and Street washing
- Commercial Waste collection
- Medical (hazardous) Waste Collection: provision of safety boxes
- Market Waste collection
- School Waste Collection
- Street Sweeping of litters, silts and abandoned tyres
- Local Policing
- Marine Waste collection covering the shorelines of the state
- Public Awareness and Education :one –on – one Advocacy & print & electronic media
- Monitoring & Evaluation
- Enforcement
- Recycling
- Landfill Management
- Transfer Loading Station (TLS) Management

CORE AREAS OF FOCUS CONT.



Public Waste Collection



Domestic/Industrial Waste Collection



Medical Waste Collection & Treatment



Street Sweeping



Policing, Enforcement Monitoring,
LAWMA



Vegetal Control



Public Enlightenment Campaign



Tyre Collection



Street Advocacy



Market Advocacy



School Advocacy



Community Clean-up Campaign: Makoko



Marine Waste Unit

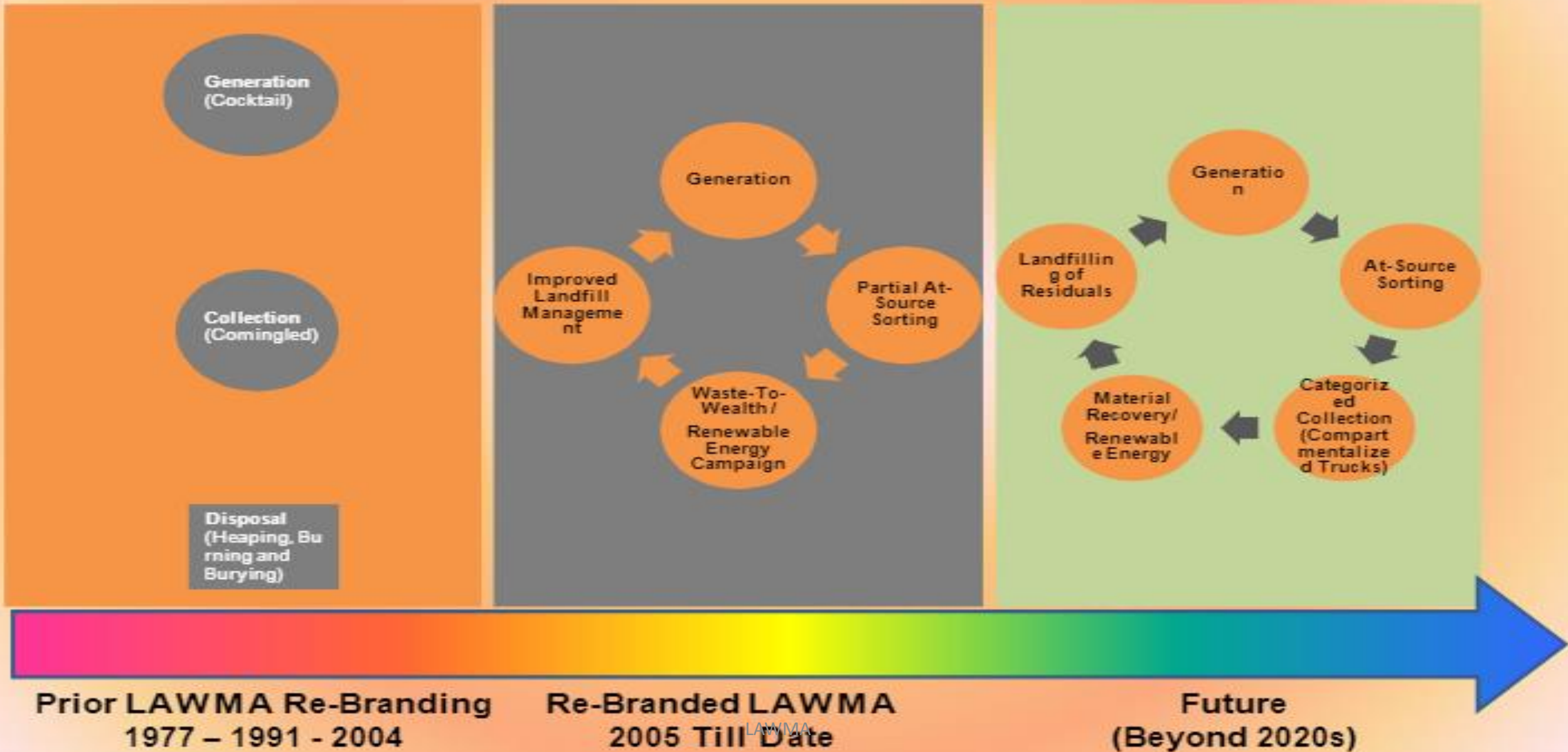


The Trend

A Paradigm Shift



The Trend



INITIATIVES AND STRATEGIES

Strengthening Institution

- LAWMA was positioned as an institution to drive development in waste management in Lagos.
 - Increase in capacities of the organization in addressing waste management challenges through policy dialogues, sharing lessons learnt to exchange experiences and practices to facilitate enhanced awareness raising and capacity building;



Local bin fabrication by staff of LAWMA

INITIATIVES AND STRATEGIES cont.

Capacity Building



INITIATIVES AND STRATEGIES CONT.

- Development of work plan to facilitate the implementation of integrated solid waste management at local, state, national and international level to overcome environmental, public health and economic issues caused by improper management and rapid increase in waste generation.
- Coordinating and Developing communities in the respective local government of practice and scaling up of best practice that is locally adaptable;
- Identifying opportunities for expanding waste management initiatives

INITIATIVES AND STRATEGIES CONT.

- Close cooperation between public and private sectors
- Single point of contact for all International partners regarding waste management in Lagos State.
- High potential markets
- Extensive market information and export channels
- Local knowledge and networks
- Sustainable Resources .i.e. Local workforce, ideas
- Circular Economy.

Challenges

- Politics: Deviations from Policy Direction
- Inadequate political commitment
- Lack of clear policies , institutional framework

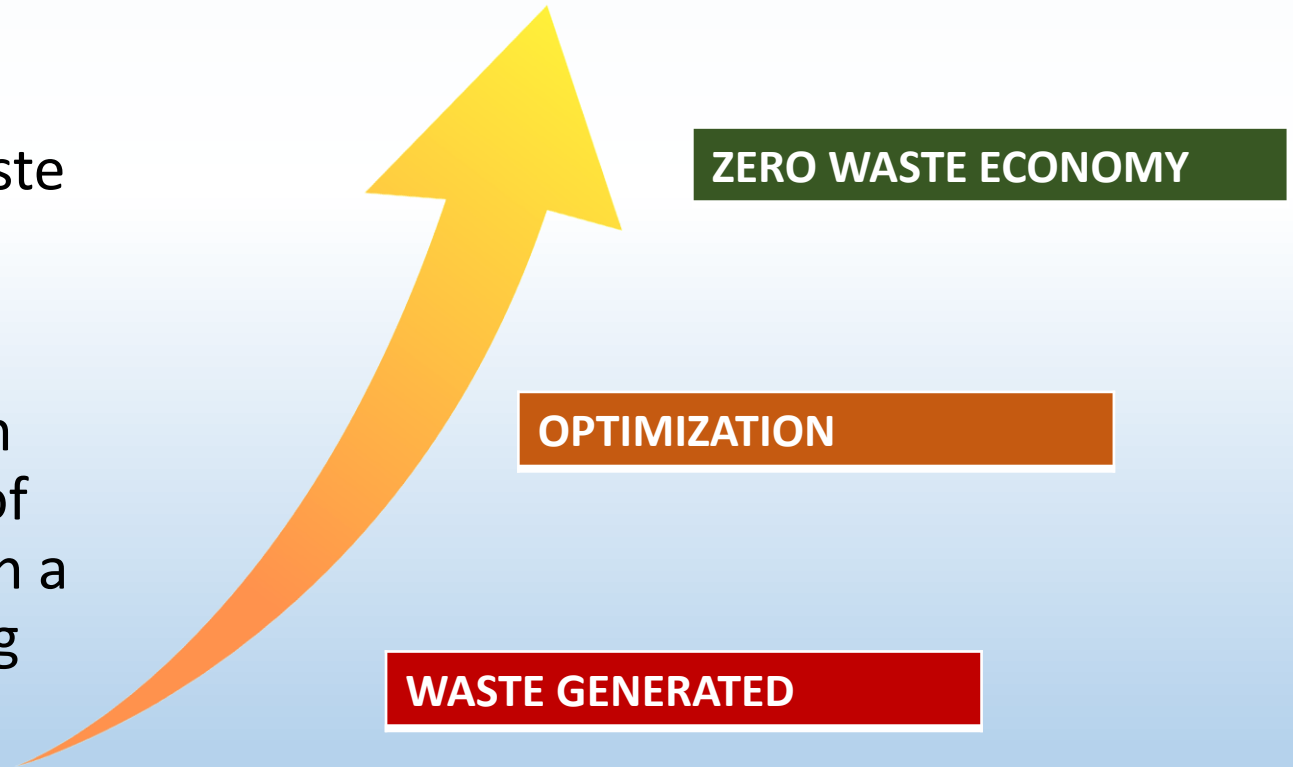
ENERGY EFFICIENCY AND CONSERVATION

LAWMA endeavor to foster collaborative relationship with the private sector with commitment to accelerating transition to Green Economy This is facilitated by the development of waste –to – energy initiatives thus creating an enabling environment for resource efficiency, low carbon dependency and environmentally considerate economic growth

LAWMA'S ROAD MAP TO A RESOURCE-EFFICIENT LAGOS 2020

we strive towards attaining a “zero waste economy”

The current trend in waste-to-wealth Programme is to harness a new line of sustainable economic activities through a more resource recovery and recycling process.



Strategies

- Private Sector Participation (PSP)
- Waste Sorting
- Waste to Wealth Initiatives
- Investment in Waste Infrastructure

Procurement of Waste trucks for the PSPs through bank financing and Govt. Guarantee

- private sector participants were brought in to handle domestic and sometimes commercial waste. In the area of capacity building for PSP operators, LAWMA secures and guarantee equipment acquisition facilities through commercial banks on periodic basis.



Procurement of retrofitted trucks by LAWMA

Though as a regulator, LAWMA is equipped to provide intervention services to bridge gap in service delivery by the PSPs



WASTE SEGREGATION APPROACH

Placing of Recycling Banks in most estates
In the city driven
by the need to
promote recycling



MATERIAL RECOVERY FACILITY AT THE LANDFILL SITE UNDER A PPP BUSINESS MODEL

- **MRF Manual Sorting Line @ Solous**



PRIVATE SECTOR RECYCLING PARTNERSHIP

We have adopted an inclusive Green Economy through partnerships in the Agricultural, Energy and Manufacturing Sector:

- Cement manufacturing is using more efficient kilns and co-processing: waste tyres and plastics are used in its production line
- Alkem Plastic Conversion to fibres/household materials
- Wecycler resource management
- Recycle Point Household Sorting programme

Plastic Recycling Plant @ Olushosun Landfill Site



PELLETIZER



EXTRUDER SHOWING WASTE BAGS IN PRODUCTION



FOOTPRINTS

➤ Biogas Plant:

Conversion of fruit waste to electricity through anaerobic digestion to harness renewable energy potential



➤ Tyre Recycling

Tyre shredding at the TLS facility for conversion into carbon black for use in road construction; a PPP model



➤ Compost production from organic waste

Earth-Care Compost Plant at Ikorodu; a PPP model

Composting



Potential increase in market demand due to rise in non-organic fertilizer price.



➤ Special Waste Collection, Treatment & Disposal

Medical Waste



LAWMA ACQUIRED BRIQUETTE PLANT



Briquette
production from
wood waste: A
Federal and State
Government
collaboration using
Ecological Fund



Installed Gas Wells at Olushosun Landfill



BENEFICIAL IMPACT

- Positive impact on the landscape by remodeling and covering the sites
- The cover will improve air quality by reducing bad odors and release of toxic gasses
- Impact on safety by eliminating the occurrence of fire and explosion on the sites
- Contribution to greenhouse gas emission reduction and prevention of anthropogenic interference with the climate system

Socio – Economic Impact

- Improved environmental health: reduce risk of explosions, nauseous odors, rodents etc
- Employment opportunities in the local area as well as rehabilitation of existing landfill workforce
- Provision of clean energy, encouraging less dependency of grid-supplied electricity
- Avenue for investment and income generations (wealth creation/ CER

Sustainable Development

- Possible use of the LFG for electricity generation
- Promotes the integration of environmental infrastructure
- Optimizes the use of natural resources and avoids uncontrolled contaminations
- Uses clean and efficient technologies, and conserve natural resources
- Improved the overall management practices of the landfill

SUSTAINABLE PLANS TOWARDS COMPLIANCE

Voluntary Agreements

Our sustainable waste management initiatives complement the green economy concept through waste policy directives in support of low carbon and circular economy

- Developing plans with manufacturers in the food and beverages sector (Food & Beverages Recycling Alliance (FBRA))
- Promoting voluntary waste reduction practice across all sectors
- Working on measures to encourage local businesses in adopting voluntary responsibility targets by ensuring proportions of goods produced are recycled

Incentives for Driving Voluntary Compliance

- Support initiatives which reward and recognize people with the right approach to minimization, reuse and recycling of waste
 - Provision of free land space at the landfill for investors doing business that are in consonance with resource recovery
 - Tax holidays for legitimate businesses
 - Distribution of free waste containers and trash bags to residents
 - Credits/coupon for waste sorting/segregation
 - Buy-back programme (thrash to cash)
 - Waste 2 Food programme
 - Plastic waste exchange for school fees

WASTE CONTAINERISATION



Voluntary Compliance Approach

Creating awareness and sensitization of the opportunities in efficient use of resources and sustainable consumption



Interactive session by Health Officers of the Local Council

Compulsory/Obligatory

- Enforcement
- Taxes are imposed where appropriate

INCENTIVES FOR PRIVATE INVESTORS

- Provision of bank guarantee for potential investors in the sector
- Land /space
- Access to utilities
- Market Guarantee

ACHIEVEMENTS

- The abundant waste is now being used to create wealth, job and enhancing the environment through waste product optimization for recycling, composting e.t.c

Capacity building for Local Councils

- The take off point was establishment of 3 sectorial clusters: West, East and Central District for effective coverage.
- Introduction and establishment of Recycling Hub at the 57 local government area/council with capacity building down the line in collaborations and well documented understanding with the Local Government Authorities.
- Encourage and support to Local Councils to sign Recycling & Waste Services commitment

Milestones

- Cleaner environment
- Best practices (technology and knowledge transfer)
- Attainment of 12% conversion rate
- Investment opportunities

Milestone contd....

- Registration of the Lagos compost plant as a CDM project
- CER for Olushosun Landfill site
- Market based solution for waste challenges
- Gender employment and Job creation

Reform Concept (2015-2018)

- ▶ Change of status and governance structure of sanitation sector through the 2017 Environmental Management and Protection Law.
- ▶ Business concept from social entrepreneurship to capital market financing.
- ▶ Lagos State Government provided the risk instrument to support the capital market financing through the provision of Market Guarantee and Irrevocable Standard Payment Order (ISPO).
- ▶ Institutionalize structures were unbundled and dis-integrated.
- ▶ Social and corporate inclusion was visibly missing.
- ▶ Lack of ownership of the project by implementing agencies of government and the operatives.

Reform Concept (2015-2018)

Contn'd

- ▶ There was a knowledge gap in the public sector (MOF, MOJ, and MOE and LAWMA) on business concepts and possible deliverables.
- ▶ Businesses assumptions were not properly integrated into the implementation framework.
- ▶ Lack of effective project team integration.
- ▶ Absence of integration of reform and government's key strategic priorities.
- ▶ Poor management of strategic key holders such as the PSP, media and the public.
- ▶ Ultimately the 2015-2018 waste management aspirations suffered a major setback due to lack of efficiency and sustainability.



PROGRAMME REVIEW

- Restoration of the governance situation and the institutional roles of critical institutions in the sector.
- Social inclusion instruments evoked for effective engagement and management of stakeholders.
- Reposition of LAWMA back to its regulatory role
- Review of the relevant sections of the 2017 Environmental Law to support the views & aspirations for restoration of a workable structure for development and sustenance of an enduring strategy.
- Waste management strategies must be in tune with the State key strategic priorities.

INTERVENTION PLANS AND ACTION

- The Intervention objectives were to address the social and environmental issues from the failure of the 2015-2018 reform programme.
- To restore the investors and public confidence in the ability of Government to correct itself.
- Rescue the social entrepreneurs (PSP) from the social and economic consequences of the collapse of the economic life line of that sector.
- To restore the legacies of the Lagos State Government in the waste management sector.
- Re-orientation and sensitization through media
- Mopping of accumulated and uncollected waste
- Clearing of backlogs of waste across the city

Intervention operation of blocked canals with pet bottles plastics and Styrofoam by officials of LAWMA and Private Sector sorting and collection for recycling purpose



There is value in Waste for Everyone



Circular Economy in Lagos

- Turning waste into resources is the focus in a circular economy.
- Improved waste management helps to reduce health and environmental problems, greenhouse gas emissions (directly by cutting emissions from landfills and indirectly by recycling materials which would otherwise be extracted and processed).
- In Lagos we have been able to identify that the focus under the CE are the manufacturers and producers who needs to re-introduce waste from their production line and reuse same as input while giving support to the informal and formal resource managers for resource recovery.
- Consumers are identified to consume responsibly
- We are working with the manufacturing companies under the extended Producers Responsibility platform on sustainable use of resources

What next?

Formulate Policy

Review Legal and Regulatory Framework

Educate the public/Enlightenment/Advocacy

Enforce compliance



Thank you