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An Integrated  
Approach to  
Sustainable  
Waste  
Management  
In Nigeria

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# Ice Breaker: Waste is MIT



# WASTE - Background

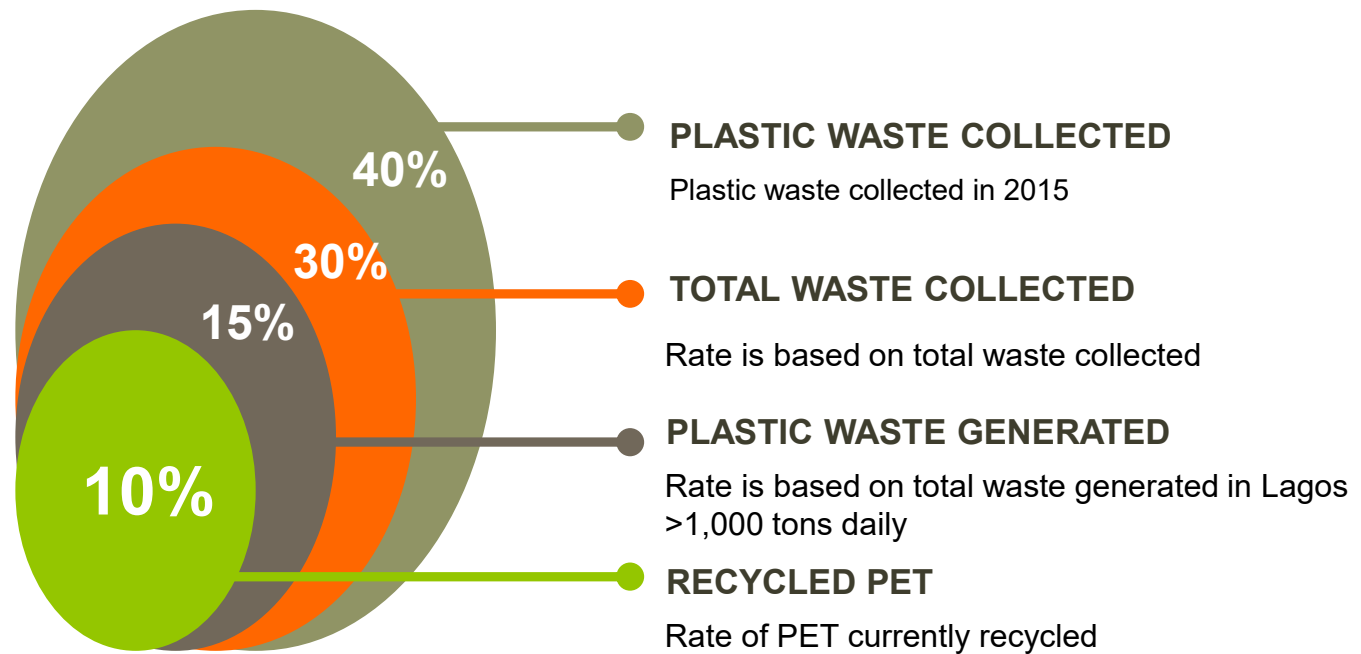
- The rate of waste generated daily in Nigeria is exponential to our population growth
- Estimate of 14,000 tonnes of is generated daily in Lagos ONLY compared to Ghana that generates 17,400 tons nationally(CREWAS Conference 2019).
- Plastic is widely used in a variety of products, degrade slowly and poses negative impact to the environment
- Plastic waste being a source of pollution contributes to climate change-a global concern

# WASTE – Policy Drivers

- Extended Producer Responsibility (EPR) Policy aims to ensure manufacturers are responsible for their product lifecycle
- Producer Responsibility Organization are established for different sectors to address waste concerns in the industry
- Three established PROs: Food & Beverage Recycling Alliance (FBRA); Electronic waste Producer Responsibility Organization of Nigeria (EPRON) and Battery Recycling is the Producer Responsibility Organization established
- FBRA was set up to be the catalyst for waste recovery and recycling of post-consumer packaging waste in the country.

# LAGOS WASTE STATISTICS

WASTE DATA FROM RESEARCH



# KEY DRIVERS FOR RECYCLING

## INDUSTRY COMMITMENT

### SUSTAINABILITY

- ✓ Make your business sustainable
- ✓ Going green and promote eco-labeling of products

### SOCIAL

- ✓ Corporate Social Responsibility
- ✓ Empower communities where you operate



### LEGISLATION

- ✓ EPR: Extended Producer Responsibility
- ✓ NESREA, Solid Waste etc.

### PRODUCER RESPONSIBILITY ORGANISATION

- ✓ Commitment to the Alliance
- ✓ Leadership for other sectors

# WASTE MANAGEMENT VALUE CHAIN

LIFE CYCLE

## ANALYSIS

The Waste Management Hierarchy emphasizes that waste reduction is the most effective means of reducing environmental impacts. Promoting awareness and education should be of high priority in achieving set targets. However for an efficient recovery and recycling of post consumer packaging, the waste value chain should be considered and an integrated approach will be more effective if applied to enhance the recovery and recycling of post consumer packaging materials.

01

### Generation

Waste generated by individuals, households and industries



02

### Collection and Transfer

From households, collection hubs, then transported to Material Recovery Facilities (MRF) for sorting, segregation, washing and baling



03

### Disposal

To dumpsites / landfills; incinerator for "waste to energy" or for recycling



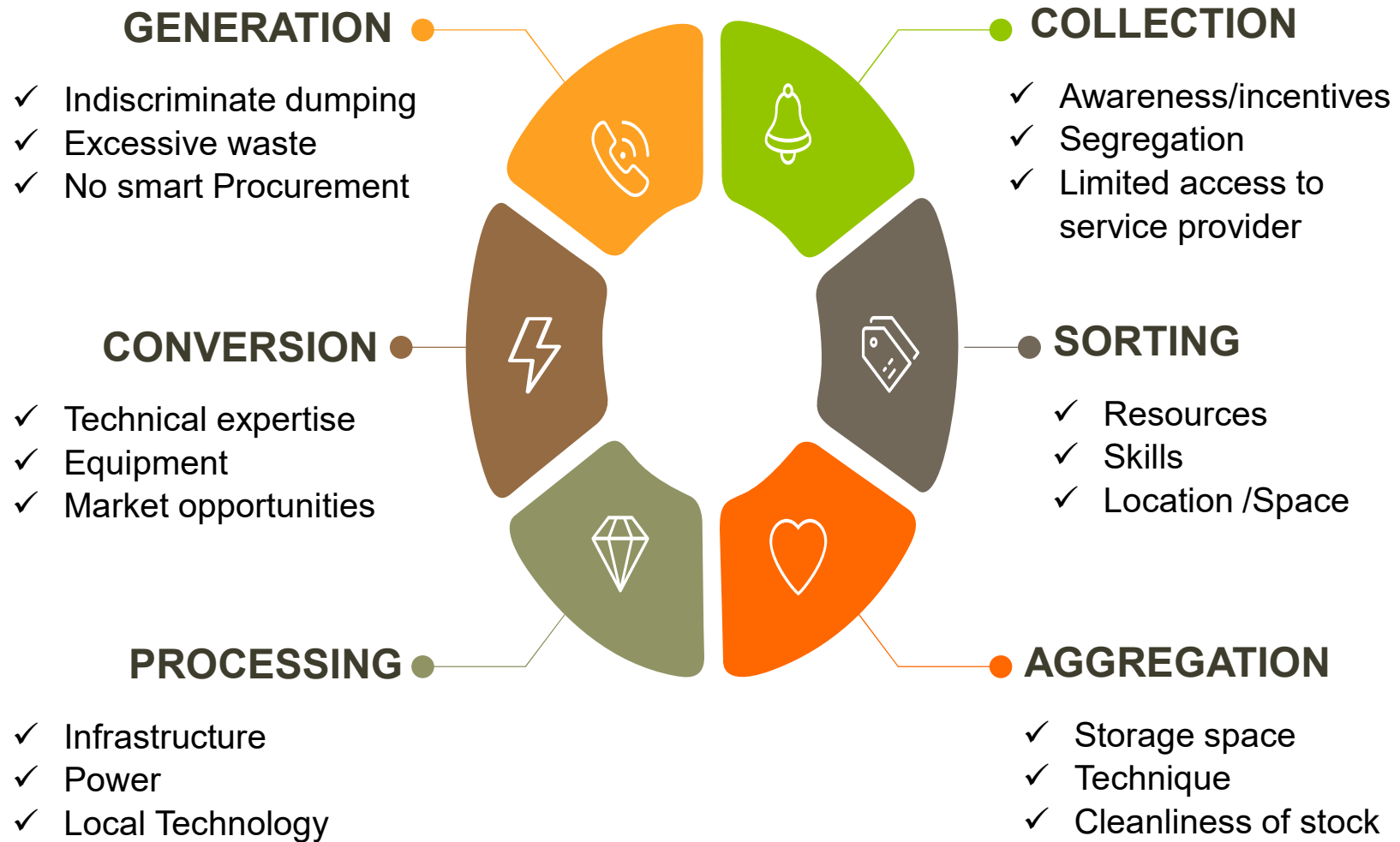
04

### End Markets

Processing to produce same packaging material/ product, new products or exported for other use



# CHALLENGES OF WASTE VALUE CHAIN





# Challenges

- Lack of Education/Awareness
- Inadequate Collection System
- Low quality of recyclables products- sorting & washing
- Lack of Incentives for promoting recycling at source
- Inadequate enforcement of Extended Producer Responsibility (EPR) policy
- Lack of adequate Infrastructure for waste value chain
- Unstable Global price of plastic waste
- Lack of investment funds in the business
- Monitoring and Evaluation of recycling activities
- High Logistics cost of recycling
- Low recycling capacity due to cost of capital & low demand for products

# Recommendations

- Promote the sustainable vision and objectives through advocacy programs
- Consider packaging redesign for sustainability goals
- Promote consumer awareness on recycling
- Develop and maintain aggregation hubs in strategic locations – LGAs and/or regional
- Support logistics arrangement for collection of recyclables
- Sponsor programs or campaigns to provide incentives for recycling
- Improve community engagement in areas of operations through campaigns, capacity building and incentive programs

# Recommendations

- Establish Partnerships with stakeholders in the waste value chain such as registered collectors/ recyclers
- Promote investment in long term projects such as “waste to energy” and/ or bottle to bottle recycling initiatives
- Set achievable targets for the Implementation of EPR expectations; provide periodic performance reports
- Maintain databank for tracking and providing reports for achieving set objectives
- Encourage partners to consider locating smart reverse vending machines (with self dispensing vouchers) in strategic places such as malls, supermarkets, schools, parks and other public places

# SUCCESS FACTORS

## STRATEGY FOR RECOVERY OF POST- CONSUMER PACKAGING

1

### EDUCATION

- ✓ Increase Awareness drive
- ✓ Promote Advocacy to build positive culture of recycling
- ✓ Community engagement

3

### RESEARCH & DEVELOPMENT

- ✓ Attract Investment opportunities
- ✓ Provide funds for research into recycling
- ✓ Develop bankable projects with 3 Es- Environment, Empowerment (social) and Economic benefits



### PACKAGING DESIGN

- ✓ Review product packaging design
- ✓ Adopt sustainable/eco-friendly packaging
- ✓ Include eco-labeling

2

### INFRASTRUCTURE

- ✓ Establish aggregation hubs in LGAs
- ✓ Scale up existing stakeholders
- ✓ Equipment/ infrastructure support

4

# Conclusion

- An effective waste management can be achieved through application of an integrated approach.
- Waste should be considered as MIT (Materials in Transfer) hence serve as resources
- The Waste Value Chain is integral to the implementation of the EPR Policy in the food and beverage industry.
- Industries can achieve their set objectives and goals through collaboration and integration of the waste value chain.

# Questions

