



Circular Economy Approach to Waste Management in Kenya: opportunities, benefits, challenges

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NEMA at a glance

- A state corporation established by an Act of Parliament, the Environmental Management and Coordination Act no. 8 of 1999
- **Mandate:** To exercise general supervision and coordination of all matters related to the environment and to be the principal arm of government in the implementation of policies related to the environment
- **Vision:** To be a world-class environmental management authority
- **Mission:** To ensure a clean and healthy environment for all

INTRODUCTION

- Environmental pollution management in Kenya is a state, county and citizenry mandate
- Policy, regulatory and institutional frameworks and measures exist for pollution management
- The crux - increase in human population; changes in consumer patterns ; with inadequate pollution management measures and infrastructure (Karcher, et al, 2020)
- Linear approach in socio-economic development and waste management practice is unsustainable

LEGAL AND INSTITUTIONAL REGIME

Legal and Policy

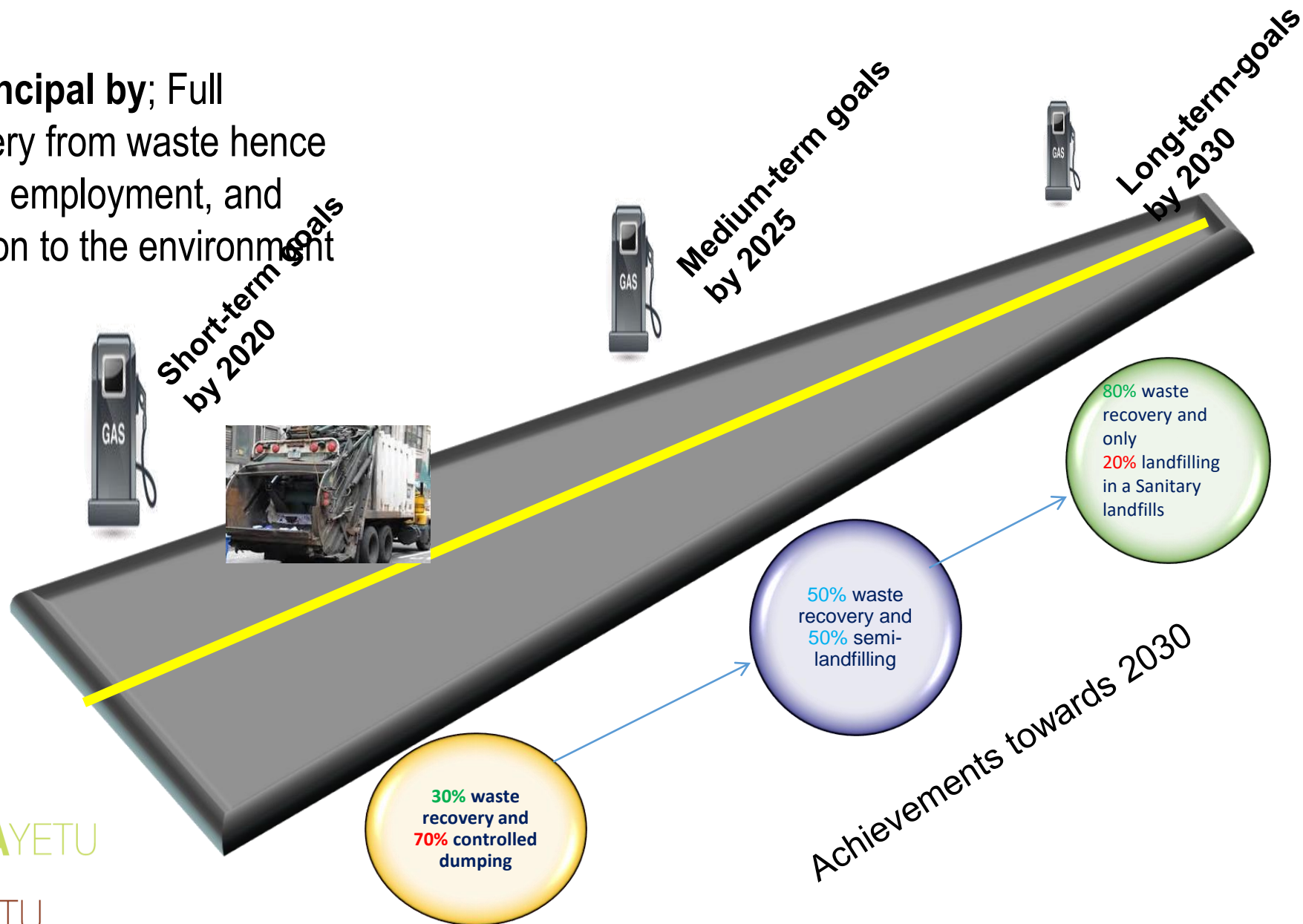
- Environmental Management and Coordination Act 1999
- Waste Management Regulations 2006
- Water Quality Regulations 2006
- Air Quality Regulations 2014
- Public Health Act 1986 (revised 2012)
- Green Economy and Strategy and Implementation Plan 2016-2030
- County legislations and regulations
- Waste handling guidelines for various waste streams
- **Actors:** NEMA, County Governments, Citizens, Residents Associations, Business Community, Industry

ENVIRONMENTAL LAWS



Goal of the National Waste Management Strategy

Zero waste principal by; Full resource recovery from waste hence creating wealth, employment, and reducing pollution to the environment



DEFINITION: CIRCULAR ECONOMY

- A system of resource management which ensures continuous use of materials, goods, energy and waste, retaining their highest value throughout their lifecycle
- A **circular economy** is an **economic** system of closed loops in which raw materials, components and products retain as much value throughout their lifecycle
- This economic system requires investment in renewable energy and resources, new design thinking and early-stage mitigation

(Ref: ICLEI and Circle Economy, 2021)

THE CIRCULARITY LOOP



RECOVER • Make waste history



REDUCE • Use resource efficiently



REUSE • Keep in the loop



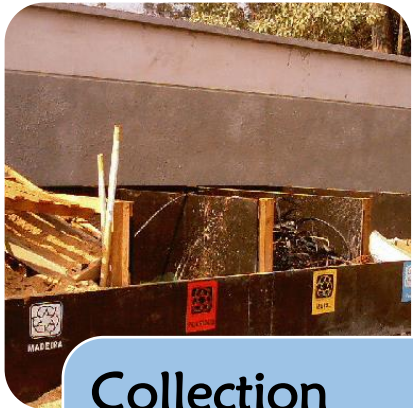
RETHINK • Design to last and share



REGENERATE • Synergize with nature

Ref: ICLEI and Circle Economy, 2021

CIRCULAR ECONOMY APPROACH FOR THE CONSTRUCTION SECTOR



Collection

- Collect all the waste in the site as you progress
- Separate the waste at site



Reuse

- Select materials to be reused at the site
- Practice onsite upcycling/downcycling



Recycle

- Contact a recycling entity for materials you cannot recycle onsite



Dispose

Contact a licensed waste handler for disposal of hazardous and nonhazardous materials



CIRCULAR ECONOMY INITIATIVES

- RUBICOM – Ruaraka Business Community's Industrial Symbiosis - initiative where one companies' residue becomes another proximate companies' resource
- Greening Kenya's Industrial Sector Initiative – waste to energy, water recycling, energy efficiency
- Cleaner Production Support to Industry by Kenya National Cleaner Production Centre and NEMA
- Continuous awareness, training and education (school collaborations), Non State Actors initiatives
- Compliance and enforcement

Benefits

- Aesthetics
- Health benefits
- Financial
- Socio-economic (eco-branding)
- Ecosystem services benefits
- Tech transfer
- Research and development
- Job creation
- Incubation and clustering of circular businesses and industries

Ref: NEMA, 2015, Oguge, 2019,

Opportunities

- Partnership
- Entrepreneurial
- Use of digital tech in waste management
- Access to finance to leverage investment

Challenges

- Financial
- Technological
- Infrastructural
- Co-mingled waste
- Perceptions, attitude, behaviour

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SHUKRAN!
THANK YOU FOR YOUR KIND ATTENTION!

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