Means of implementation for actions and solutions in the waste management sector

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September 5, 2025



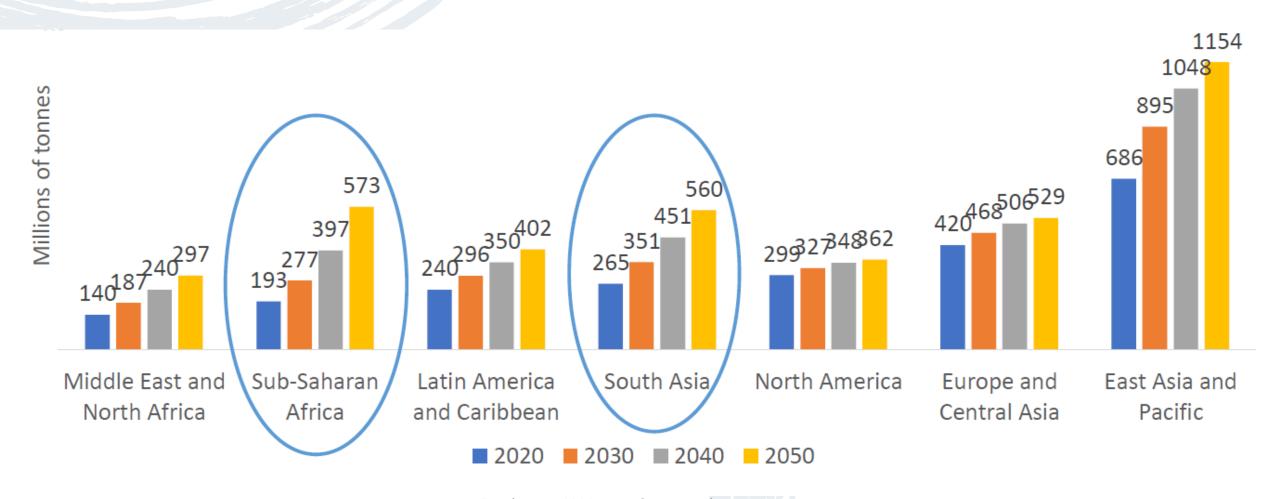
Waste generation is expected to increase by 73% by 2050*

2020: 2.24 billion tonnes

2050: 3.88 billion tonnes

(*) What a Waste 2.0, The World Bank, 2018

Sub-Saharan Africa and South Asia are the fastest growing regions



Projected Waste Generation Millions of tonnes/year



THE WASTE MANAGEMENT VALUE CHAIN

There many implementation models to handle waste streams from every step of the waste value chain



COLLECTION AND TRANSPORT

Municipal waste
Commercial waste
C&D waste
Industrial waste
Hazardous waste



SORTING AND TREATMENT

Recycling Reuse Composting



ENERGY RECOVERY

Anaerobic Digestion (AD)
Waste-to-Energy
Refuse Derived Fuel (RDF)



DISPOSAL

Sanitary landfill Landfill gas collection

For solutions to be sustainable, they need to be financially viable, at scale

1. THE IMPORTANCE OF A PLAN

- •A strategic long-term sector plan provides a clear vision for developing waste management systems in a coordinated and phased manner
- •It aligns investments, infrastructure development, service delivery, and financing with national and local objectives over time
- •Strategic planning anticipates future waste generation, urban growth, and changing service needs, avoiding costly reactive measures.
- •It ensures that sector development is proactive, resilient, and sustainable.

Without a strategic plan, investments become ad hoc, resources are wasted, infrastructure may become obsolete, and critical gaps in service delivery persist

2. UNDERSTANDING THE COST OF WASTE MANAGEMENT

Typically:

- Insufficient funding from local budget
- •No serious tariff collection from households
- Some funding from commercial waste
- People pay waste collectors directly (informal channels

Needs:

- •Much greater than current operational budget (varies by country)
- •Capital investments are substantial and may be (partially) financed with transfers from national government
- •Operational costs over the years are typically higher than capital costs and need long-term financing

For SWM systems to be sustainable, it is essential to understand full costs of system and then to generate revenues that can cover costs (e.g. budget transfers, tariffs, sale of recyclables)



3. MATCH FINANCING AND SECTOR IMPROVEMENTS

- Understand costs: Need to do serious accounting and cost analysis for each step of the value chain
- Quantify sources of revenues: Budget transfers, user tariffs (multiple charging options), cross-subsidizing
- Identify possible revenue enhancements: Generate revenues from alternative waste streams (e.g. sale of recyclables, biogas to energy, carbon credits)
- Assess political and public support to increase service costs (willingness-to-pay, affordability)
- Stage incremental improvements in service levels, geographical expansion, tariffs, introduction of higher-end systems/recycling: anticipate long-term transition
- Mobilize private sector
- Involve informal waste collectors and waste pickers

4. DECIDING ON THE RIGHT IMPLEMENTATION MODALITY

PUBLIC SECTOR

- Regulatory framework
- Environmental and Social Standards
- Planning
- Financing
- Monitoring
- Public education/awareness

PRIVATE SECTOR

- Global industry expertise
- Innovation
- Service standards
- Efficiency
- Competition
- Financing



5. MOBILIZING THE PRIVATE SECTOR FOR WASTE MANAGEMENT

Sector environment

- Legal and regulatory framework in place
- Long term waste management plans

Commercia viability

• Commercial arrangements in place (tipping fees, energy tariffs, recycling revenues) that yield profitable returns

Counterpart credit • Creditworthiness of municipal governments and customers who pay for waste management services

Risk Allocation Identification and allocation of risks during construction and operation, with risk-return balance

Lender perspective

- Lender willingness to finance projects at competitive rates
- Legal regimes
- Bankable contracts

When the enabling conditions are in place, private waste management companies and financing will flow into the waste sector



Thank you cmarulanda@worldbank.org