A Global Snapshot of Solid Waste Management

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Main Messages

• Waste generation is anticipated to increase by 70% by 2050 with Sub-Saharan Africa and South Asia growing the fastest (35% of global waste by 2050)

• One-quarter of global plastic waste is coming from East Asia and the Pacific with ocean waste primarily coming from 5 countries in the region. A circular approach is necessary for sustainable development

• Nearly 50% of solid waste operations involve the private sector, nonprofits or civil society and there is further opportunity to engage
Waste is expected to increase by 70% by 2050

2016: 2.01 billion tonnes

2050: 3.40 billion tonnes
Waste generation is positively correlated with urbanization.
Sub-Saharan Africa and South Asia are the fastest growing regions
Per capita waste generation increases with income
High income countries generate 34% of the world’s waste with 16% of the global population.
Composition of waste varies by income
Food loss and waste amounts to 30% globally

Source: FAO
Plastic waste generation is growing rapidly

242 million tonnes =

24 trillion plastic bottles

4.8 million Olympic-sized swimming pools
Three regions account for **60%** of plastic waste generation

- **35 million tonnes**
  - North America

- **45 million tonnes**
  - Europe & Central Asia

- **57 million tonnes**
  - East Asia & Pacific

- **105 million tonnes**
  - Remaining Regions
Low-income countries collect only 39% of waste
33% of global waste is openly dumped with over 90% in low-income countries.
Solid waste management contributes to 5% of global emissions (excluding transportation)

2016: 1.6 billion tonnes CO₂-equivalent GHG emissions
2050: 2.6 billion tonnes CO₂-equivalent GHG emissions
30% of countries do not have any institutions or policies to address waste
Waste is overwhelming a predominantly local government responsibility
Local governments often lack funds, only covering ~50% of investment costs for waste systems.

Remainder comes mainly from the national government and the private sector.
>50% of services are operated by public entities & ~1/3 involve a public-private partnership
High income countries: >$100/tonne
Lower-income countries: ~$35/tonne

In low-income countries waste management consumes ~20% of municipal budgets
The poor are most affected by inadequate waste management
In Mumbai, Jakarta, and Buenos Aires, economic impact is estimated to be more than $880 M/year.

Scale of informality is significant, with at least 1% of urban population earning informally through waste sector.
Studies have shown challenges include lack of access to quality waste streams (73%), unstable prices (87%), & lack of negotiation power (61%) across 5 cities in Africa, Asia and Latin America.

harassment (80%), social exclusion (97%), poor treatment by local authorities (84%), & regulations & bylaws regarding waste (89%) in Bogota and Durban.
Models to improve informal livelihoods in waste sector:

1) Formalization and integration of waste pickers
2) Strengthening of the recycling value chain
3) Consideration of alternative employment opportunities
Major investment is needed

1) Focus on Sub-Saharan Africa and South Asia which account for nearly half of the growth in waste by 2050

2) Prioritize 5 countries in Asia to address bulk of marine litter problem
3) Adopt regulations & incentives to attract financing and the right partners—private sector, nonprofits, informal sector, or civil society

4) Work with manufacturers, governments, operators, & citizens to support a circular economy
Thank you

worldbank.org/what-a-waste