



## At a Glance

# WASTE AND CLIMATE CHANGE

**Climate change from waste** is linked to global resource extraction, transportation, processing, and manufacturing. In landfills, methane-producing microbes acting upon untreated organic waste emit methane and carbon dioxide greenhouse gases (GHGs) that contribute to global warming and climate change.

## THE CRISIS

- In most countries, controlled and uncontrolled **landfilling of untreated waste is the primary method of disposal.**
- **Landfills are a major source of anthropogenic methane emissions;** their short-term impacts are grossly under estimated.
- **The estimation of methane generated from MSW in India is uncertain** as the rate of disposal varies from city to city.
- **Incinerators emit more CO<sub>2</sub> / mWh than coal, natural gas or oil-fired power plants.**
- **By 2020, electricity-only incinerators in the UK will emit significantly more fossil CO<sub>2</sub> than gas fired power stations,** and only marginally less than coal-fired power stations.
- **1 MT of discards should be produced for every 71 Tons of incinerated waste and landfill.**

## UP IN SMOKE

- GHG emissions from waste sector (1994): 23.23 MT
- GHG emissions from waste sector (2007): 57.73 MT
- Percentage of increase in GHG emissions (2013): 4%
- Methane emissions from landfills (2015): 1084 Gg
- GHG emissions from solid waste incineration: 40 Mt CO<sub>2</sub>-e
- Methane emitted from landfills in India (2007): 604.51 Gg
- Methane emissions from landfills in India (2015): 1,084 Gg
- Proposed reduction in emissions (2005–2030): 33–35%
- Percentage of non-fossil fuel in total installed capacity (2015): 30%
- Percentage of non-fossil fuel in total installed capacity (2030): 40%
- CO<sub>2</sub>-e saved for every kg of plastic recycled: 1.5–2 kg
- Annual reduction of TCO<sub>2</sub> emissions by informal sector in Delhi: 962,133 MT
- Percentage of total GHG emissions from waste management in EU (2005): 2%
- Percentage of total GHG emissions from waste management in EU(2016): 4%

- **In Europe:** The Waste Electrical and Electronic Equipment (WEEE) Directive, and the Directive on Packaging and Packaging Waste promote EPR for specific materials.
- **In Canada and Australia:** EPR legislation to reduce beverage containers, used tyres, and car battery waste.
- **In the US and elsewhere:** Propagation of a zero waste approach.

## GOING FORWARD

- **Formulate policies to fund and expand climate change mitigation strategies.**
- Establish and implement **national, state-wide and municipal zero waste plans.**
- **Improve tools** to assess climate implications of the waste sector accurately.

## DOWN TO EARTH

- Waste prevention/ minimisation at source: cleaner production, EPR, sustainable consumption and production
- Recycling
- Segregation of municipal waste
- Composting/ anaerobic digestion
- The volume of emissions reduced by informal waste pickers in Delhi is 3x more than any waste management project slated to receive carbon credits in the city

## KEY INTERNATIONAL CONVENTIONS AND APPROACHES

- **United Nations Framework Convention on Climate Change (UNFCCC):** Refers to the transfer of technology, knowledge and financial resources from developed to developing nations.
- **The UNFCCC Agenda in the Bali Action Plan (2008):** Refers to approaches and sector-specific action, technology development and transfer, and action on financial resources and investment.
- **The Basel Convention (BC):** Addresses both hazardous and other waste, and provides an opportunity to realise new and additional resources to enhance waste management.
- **In Mexico:** Paper mills collaborate with waste picker associations to secure waste paper.

- **Phase out landfilling and incinerating of biodegradable materials** immediately. Do not promote or subsidise burn technologies.
- **Incentivise initiatives to create and sustain local reuse, recycling, and composting jobs.**
- **Make manufacturers and brand owners responsible** for the products and packaging they produce.
- **Regulate single-use plastic products and packaging** that have low or no recycling levels.



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