



# NATIONAL GREENHOUSE GAS INVENTORY SYSTEM



## GREEN INVESTMENT OPPORTUNITIES FOR MALAWI'S WASTE SECTOR

In Malawi, waste management systems have not kept up with the growing population. Waste piles up in waterways and streets or is haphazardly burned, sewage goes untreated, and toxic materials leach into soils and water tables. People and animals then suffer negative health effects from contaminated drinking water, increased vermin and disease vectors, and air pollution. Unmanaged decomposing waste also releases greenhouse gases into the atmosphere, helping to drive climate change.

Emissions from waste in Malawi have increased in the past twenty years, alongside the growth in population and urban centers. Waste emissions in 2017 were the second largest source of emissions (17% of the total), surpassing the energy sector which was reported to be the second largest source in Malawi's Second National Communications in 2011.

**In 2017, emissions from the waste sector accounted for 17% of Malawi's total greenhouse gas emissions.**

In 2019, the Government of Malawi, through the Ministry of Natural Resources, Energy and Mining,

in the Environmental Affairs Department (EAD), launched the **Greenhouse Gas Inventory System (GHG-IS)** to monitor and report national emissions across all economic sectors. This comprehensive system establishes a process through which EAD engages public and private sector partners to collect critical information needed to produce reliable estimates of greenhouse gas emissions.

Emissions estimates produced by the GHG-IS can help the government, investors, and development partners develop effective, practical and mutually beneficial strategies to achieve green growth. Understanding the greatest sources of emissions allows Malawi to make targeted interventions and better access climate finance.

Through improved data collection and management processes, the GHG-IS generates more complete information about waste management in Malawi. This information can help identify investment opportunities and recognize practices that enhance sustainability and lower emissions.

### WASTE MANAGEMENT AND CLIMATE CHANGE

Waste management, whether in formal waste processing facilities (e.g., landfills, solid waste incinerators, or sewage treatment plants) or informal waste treatment sites (e.g., dumps, open

burning sites, etc.), results in greenhouse gas emissions. These emissions come from the breakdown of organic matter as well as from burning materials.

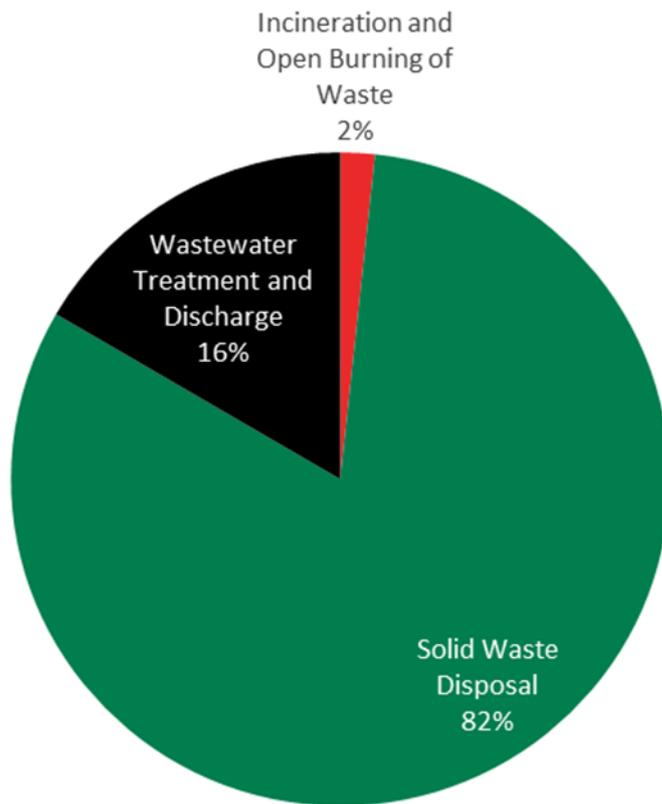
Emissions in the waste management sector are dominated by methane, a particularly potent greenhouse gas released when organic matter breaks down.

### WASTE SECTOR OPPORTUNITIES FOR GREEN GROWTH

Understanding sources of emissions in the Malawian context presents opportunities to lower the climate impact of waste management. Emission reduction activities may also offer important co-benefits such as improved health outcomes from cleaner air and water, as well as a potential source of alternative, renewable energy through methane capture.

Many of the interventions that could lower emissions from the waste sector involve larger-scale programs that improve and expand infrastructure and municipal waste treatment services. Nevertheless, these interventions can result in real, measurable changes in greenhouse gas emissions and public health outcomes.

These large-scale interventions This will likely involve substantial action and attention from the Government of Malawi and donors, but there are opportunities for the private sector to participate, potentially through public-private-partnerships.



**2017 National Greenhouse Gas Inventory relative contribution of emissions by different waste management categories.**

#### Beneficial actions could include:

- Expanding formal waste management systems, including regular pickup and drop off at managed landfills or incineration sites that capture methane emissions for energy use.
- Improving sewage and sanitation infrastructure and capturing emissions in wastewater treatment plants.
- Introducing programs that recycle waste into new materials. This could generate new economic opportunities and a source of material for goods.
- Compositing organic materials such as food scraps, yard waste, and agricultural waste to produce organic fertilizer and lower emissions. This compost could help replace some of the inorganic fertilizer use which is a contributor to agricultural greenhouse emissions.

**For more information about the GHG-IS and its uses, contact the EAD representative listed below.**

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