

**Project Name:** [Assessment of the Current Status of the Circular Economy in the Waste Sector for Developing a Waste Stream-Specific Roadmap in Malawi](#)

**Theme:** Circular Economy (Waste Management, Environment Management)

**Project Summary:** The shift from a linear to a circular economy is critical for resource efficiency and the long-term value of resources and goods. Sustainable Inclusive Business (SIB-K), supported by The Netherlands Organisation for Applied Scientific Research (TNO), assessed the current state of the circular economy in the waste sector in Malawi in collaboration with Malawi's National Commission for Science and Technology and with funding from the European Commission through the Climate Technology Centre & Network (CTCN). The findings of this study aided Malawi in designing a waste stream roadmap for attaining a circular economy in the waste sector with a specific focus on the priorities of the waste stream.

**Project Objective:** The project's main objective was to support the development of a waste stream-specific road map and pilot project for the circular economy in Malawi.

**Specific objectives:**

1. The project's goal was to evaluate the current state of waste management practices for the six waste streams (plastics, metals, glass, paper, household waste, and agricultural waste) and identify and develop an up-to-date guide for critical stakeholders, existing public and private sector initiatives, policies, and insights in waste generation and processing.
2. Determine the benefits and drawbacks of implementing a more circular waste management system for each waste stream.
3. Select a waste stream with the best chance of transitioning to a more circular management system.
4. Create a thorough strategic national roadmap for the selected waste stream.

**Target Group(s):** The target groups were the Malawi national Government, Malawi's National Commission for Science and Technology, government agencies, waste management organizations, informal waste players, and households.

**Impact:**

- **Conducted a successful study** to assess the current state of the circular economy in the waste sector in Malawi.
- **Conducted policy analysis** and identified gaps that hinder the transition to circularity.
- **Analyzed Malawi's major challenges** in waste management infrastructure and provided recommendations to ensure proper and effective waste management in the country.
- **Designed a conceptualized pilot project** for the circular economy in Malawi.
- Aided Malawi in **designing a waste stream roadmap** for attaining a circular economy in the waste sector, specifically focusing on the waste stream's priorities. This roadmap will act as a management tool during the implementation phase and foster new enterprises, innovation, and technology transfer, creating high-quality jobs and mitigating climate change, which benefits all.

**Funding Partners:** The European Commission funded the study through the Climate Technology Centre and Network (CTCN).

**Duration:** The study was implemented for one year (2021 – 2022).

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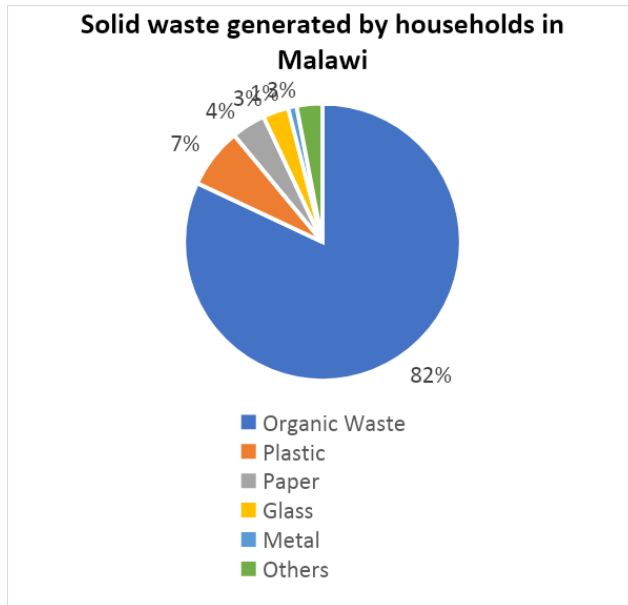
#### MORE DETAILS OF THE PROJECT

- **Findings of the Study:** Malawi is still far from having a sound waste management system in place. Most cities and municipalities have underdeveloped collection systems, with collection rates of 30% in most cases. Plastics have a well-developed value chain. The majority of effort revolves around data gathering and aggregation. In the case of plastic recycling, there is greater activity (although not on a very large scale). Metal, glass, and paper have less developed value chains than plastics. There is no waste separation at the source of waste collected by the local authorities. Waste separation for reuse or delivery to private waste collectors was acknowledged by 20 percent to 44 percent of households. Many private collectors gather plastic waste separately, then send it to aggregators or recycle it directly.
- **Waste Generated in Malawi's Cities:** As in most developing countries, Malawi's responsibility for waste management lies with local governments. However, waste management remains problematic for local authorities, particularly in urban areas. Lilongwe, Blantyre, Zomba, and Mzuzu, like many other rapidly urbanizing cities worldwide, are confronted with waste accumulation due to urban population growth and inadequate resources (primarily financial) that limit public services. With **approximately 70% of municipal solid waste not officially disposed of and with only a 4% waste recycling rate**, it is legitimate to say that the current model of waste management in Malawi is mainly linear and provides ample opportunity for improvement in transitioning to a circular economy. Data collected by *TNO Research and Sustainable Inclusive Business Kenya (SIB-K)*, the Knowledge Centre in 2021, shows that the capital **Lilongwe and Blantyre cities have the most significant waste generation of 180,000 metric tonnes and 192,720 metric tonnes, respectively**. The data provided by the local authorities consists of the figures from the weighbridges where available and estimations based on the number of track trips transporting waste to the dumpsite/landfills.

**Estimated waste generation (local authority data)**

Local Authority	Waste Generated (tonnes/year)
Lilongwe City	180,000
Blantyre City	192,720
Mzuzu City	37,263
Mangochi Municipality	24,000
Zomba City	21,014
Kasungu Municipality	7,200
Mmbelwa District	4,800
Liwonde Town	3,000

- Waste Characterization in Malawi:** Most of the commonly known discarded wastes that make up the day-to-day items being disposed of by the general public are municipal solid wastes (MSWs). This study focused on glass, paper, plastic, organic waste, and metal. The selection and proper application of suitable methods, policies, and technologies to achieve specific waste management objectives are termed Integrated Solid Waste Management (ISWM). A waste characterization study was carried out, with the findings showing that 82% of solid waste generated by households in Malawi is organic. Plastic accounts for 7%, paper 4%, glass 3%, and metals 1% respectively. Other types of waste, including textiles, electronic waste, and diapers, contribute about 3% to the total waste



generated.

- Policy Landscape in Malawi:** The Constitution is the basis for other laws and sets the pace in establishing laws, regulations, and policies. Acknowledging environmental protection as a right indicates that waste management is critical to ensuring this right. Despite the obligations and

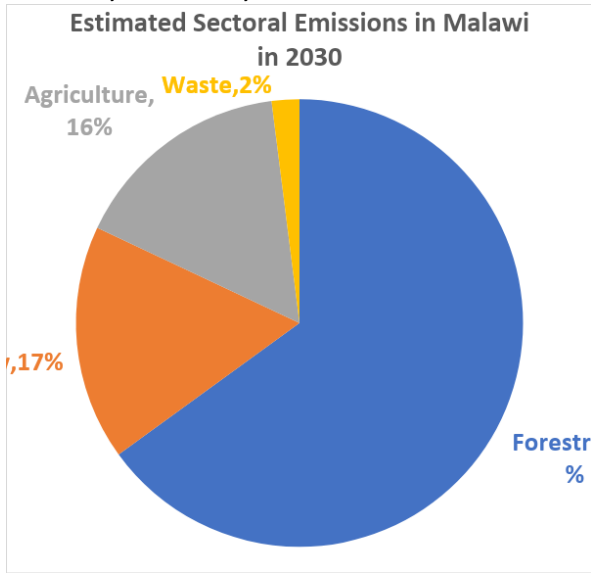
rights in the Constitution, environmental degradation and threats to health in Malawi result from poor urban planning; 70% of municipal solid waste is not officially disposed of but dumped in unlined dumpsites, rivers, roadsides, and backyards.

Malawi has a lot of legislation (EMA Act, 2017, Waste Regulation, 2018) dedicated to fighting waste generation and poor infrastructure. Nevertheless, despite several attempts, there are only two legislations, myriad national policies, and no sub-national policies that mainly target plastic pollution. These policies call for improved waste management and recycling initiatives. These policies are more affirmative, such as planning to commit to developing a more robust waste management sector or recycling techniques. The Malawian Government has been attempting to implement a stronger plastic bag ban, given the success of Single-Use Plastic (SUP) bans in neighboring countries like Rwanda and Kenya. Prohibition on the importation, manufacture, trade, and commercial distribution of plastic bags/sheets less than 60 micrometers in thickness (Environmental Management (Plastics) Regulations, 2015).

Plastic waste valorization in Malawi is already happening, but public policy coherence and alignment must be intentional to ensure proper and effective stakeholder engagement. The assessment further identifies gaps that hinder the transition to circularity.

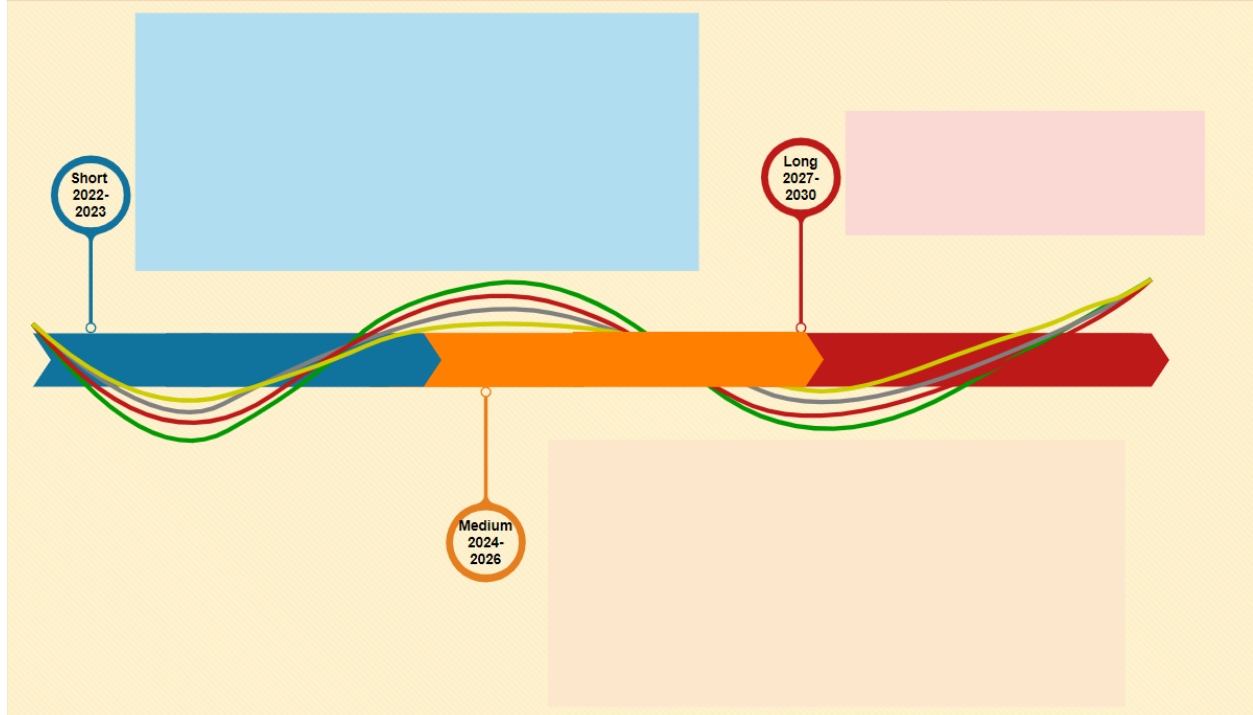
- Lack of adopting a risk-based approach to prioritize the most urgent environmental risks
  - Need to strengthen enforcement
  - Low levels of public awareness and engagement
  - Slow integration of circularity in the existing policy,
  - Low levels of involvement of players in the informal sector in policy development
  - Low adoption of recycled content to produce packaging products
  - Part adoption of the Extended Producer Responsibility scheme
  - Financing the transition to a circular economy for plastics
  - Incentives for Circular Economic Trailblazers
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- **Relation to the Malawi Nationally Determined Contributions (NDCs):** The Malawian Government has described its climate actions and the Nationally Determined Contributions (INDCs) in the National Climate Change Management Policy. The INDCs embody each country's efforts to reduce national emissions, which is in line with the Paris Climate Agreement of 2015. The report on the INDC expects the total annual GHG emissions to increase from **approximately 29 Mton CO2 equivalents in 2015 to about 42 Mton Gg CO2 equivalents in 2040**. Depending on the development path (as a least-developed country) of the economy and the international capacity building, Malawi estimates **that approximately 15 Mton CO2 equivalents can be saved**

by 2030, i.e., a reduction of about 35% in



2030.

## Roadmap Visualization of the Current Prioritization



- Improve policy and regulatory enforcement
- Develop domestic funding mechanisms
- Develop a policy and legal framework for EPR for plastics
- Include women and young entrepreneurs
- Improve public-private collaboration and engagement
- Increase institutional awareness
- Increase public awareness and information sharing
- Enhance the valorization of (plastic) waste

### Domain:

- Enhancing the institutional environment
- Promoting constructive collaboration
- Increase knowledge levels and availability
- Improve the physical infrastructure

- Redesign of policies
  - Improve waste disposal options
  - Develop infrastructure for commercialization
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- Expand local trade and foster market development
  - Include the informal sector
  - Improve cross-sectoral collaboration
  - Invest in R&D and innovation
  - Prepare for and foster human capacity building
  - Increase collection levels
  - Improve data infrastructure
  - Increase dry/wet separation and post collection separation