

# Lifecycle Approaches to Waste



## About

The **Sustainable Development Goals Policy Briefs** highlight a hotspot of environmental change. The evidence provided builds on scientific data and information hosted on the online platform Environment Live and is complemented by stories from around the world. Readers are invited to explore the numerous clickable links [🔗](#) throughout the Brief.

**Waste** is generated at a massive and growing rate but is not always managed appropriately, leading to greenhouse gas emissions, pollution, and health hazards. With ongoing population growth and rapid urbanization, the optimization of waste systems is critical. Fortunately, this presents a tremendous opportunity to recover valuable resources and create employment, while mitigating these negative impacts.



**UN Environment is the Custodian Agency for several key indicators related to waste:**  
Goal 12: "Ensure sustainable consumption and production patterns."

- 12.2.1 Material Footprint [🔗](#)
- 12.2.2 Domestic material consumption [🔗](#)
- 12.3.1 Global food loss and waste index [🔗](#)
- 12.4.1 Number of parties to international MEAs [🔗](#)
- 12.4.2 Hazardous waste generated [🔗](#)
- 12.5.1 National recycling rates [🔗](#)
  
- 11.6.1 Municipal Solid Waste Management\* [🔗](#)
- 14.1.1 Marine litter and coastal eutrophication [🔗](#)

\* UN-Habitat is custodian of 11.6.1 but UN Environment collaborates closely on this indicator

## Reclaiming the value of waste through innovative lifecycle approaches

A critical way of reducing the burden of waste is by **preventing its production** in the first place, such as with the expanded concept of the **6 Rs**:

Reduce, Reuse, Recycle, **Rethink, Refuse, Repair.**

**IF YOU CAN'T REUSE IT, REFUSE IT**

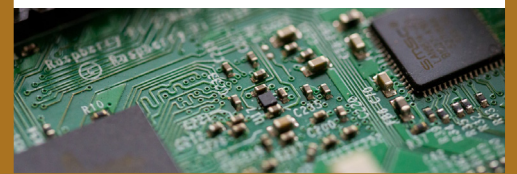
**#BeatPlasticPollution** is a global campaign to reduce the use of single-use plastics [🔗](#)



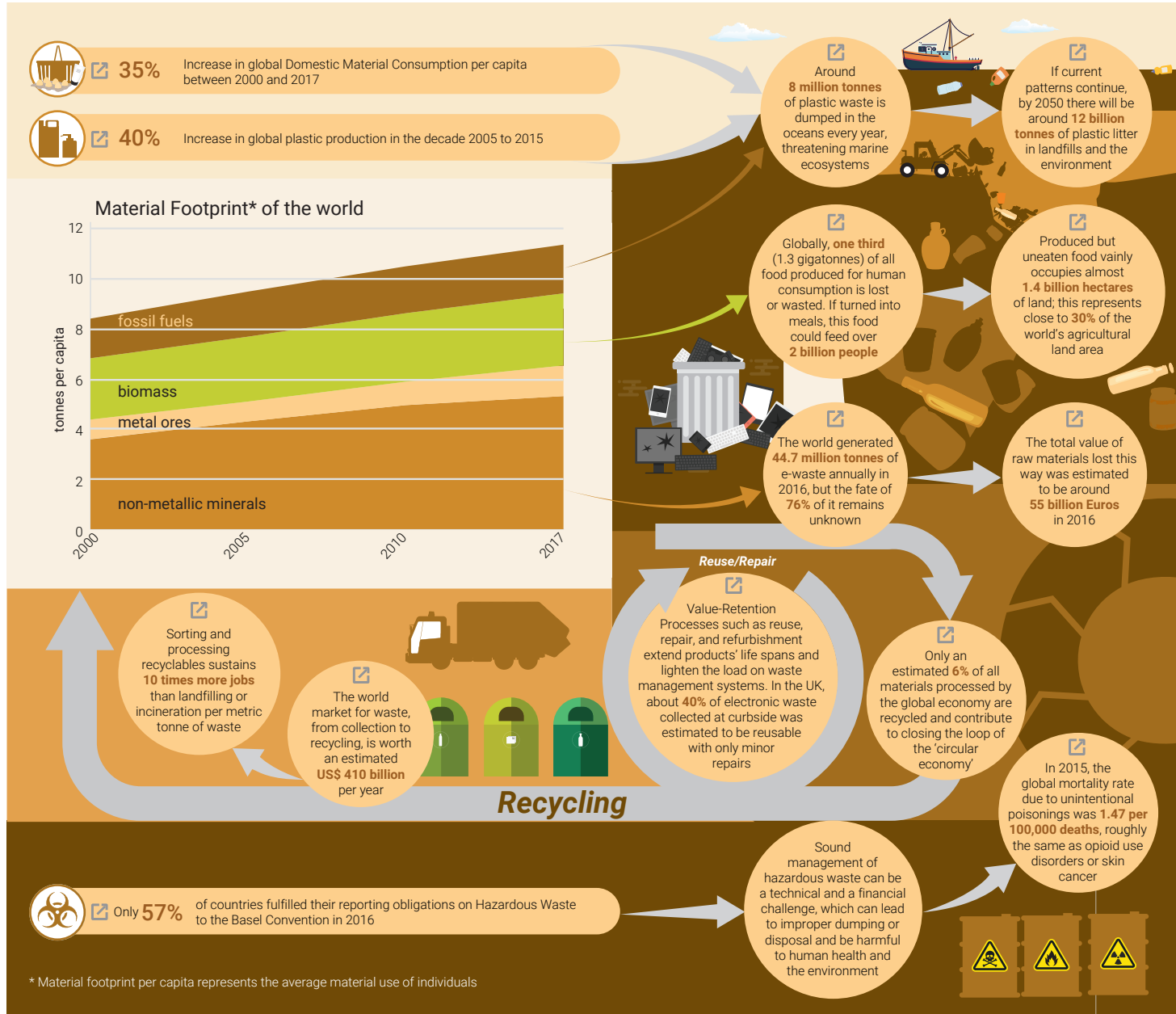
Improving waste management is critical for the achievement of the following Sustainable Development Goals:



Many types of waste can be **reframed as a resource**: e-waste, for example, often contains valuable metals such as gold, while the nutrients in food waste can be captured as compost.



# Facts and figures



# Action

## Towards solutions ...

- 186** countries have shown their intent to limit the movements of hazardous waste by becoming parties to the **Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal**
- 34** African countries have joined the **African Clean Cities Platform**, a project development and knowledge sharing platform promoting sound waste management practices in Africa
- 1000+** Public and private members of the **FAO's Save Food: Global Initiative on Food Loss and Waste Reduction**
- 60+** Countries have **regulated or banned the use of single-use plastic bags or styrofoam** as of 2018, favouring reusable alternatives and reducing their waste generation

... for achieving the **SUSTAINABLE DEVELOPMENT GOALS**

## Guidelines for Action:

- National Waste Management Strategies**
  - Practical guidance for the assessment of the environmental burden of disease
  - Classification reporting and indicators for e-waste
- Reducing the Food Waste**
  - Prevention of generation of Hazardous Waste
- 3 GOOD HEALTH AND WELL-BEING**
- 11 SUSTAINABLE CITIES AND COMMUNITIES**
- 12 RESPONSIBLE CONSUMPTION AND PRODUCTION**
- Toolkit for the Environmentally Sound Management of hazardous

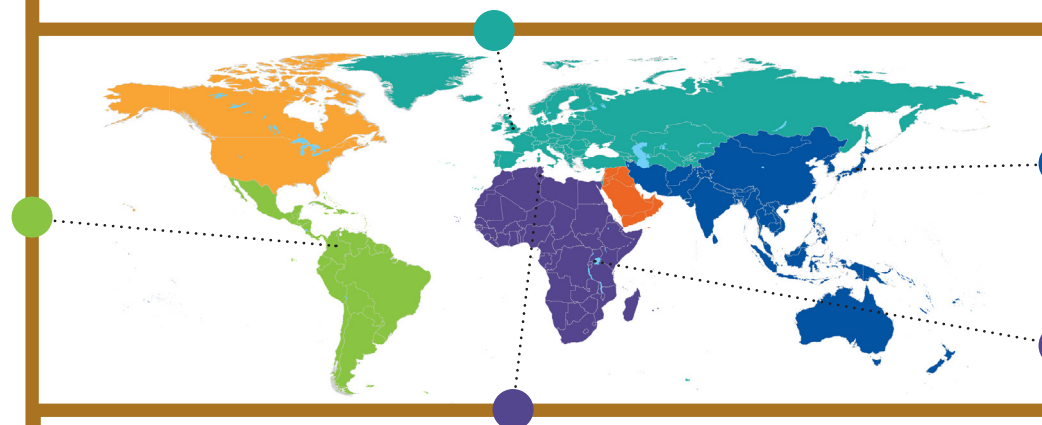
## Initiatives on the ground

### Municipal solid waste management in Colombia

In Versalles, Colombia, open dumping of municipal waste was a common sight until 1997. Through technical and financial support from local NGOs, a municipal solid waste management plan was devised to stop the contamination of water resources and mitigate health impacts from open dumping. The objectives were to achieve a high rate of collection and adequate disposal of municipal solid waste, to introduce source separation of waste, and build a waste processing plant. As a result of the plan's implementation, the rate of separation of waste at source in 2015 rose to above 80%, with recoverable materials marketed and organic matter transformed into compost. Of the 42 tonnes of waste generated by the community per month, 27 tonnes of organic matter and 7 tonnes of recycled materials were recovered. Overall, the town has reduced by 83% the amount of waste it would have otherwise sent to landfill.

### Innovative food waste policies in the UK

The UK has had policies aimed at reducing food waste since 2007, including food waste prevention targets that involve food businesses, local and national governments and a wide range of other organisations. Love Food Hate Waste, a high profile consumer-facing campaign, has been running for a decade, and between 2007 and 2015 UK household food waste fell by a million tonnes a year. Actions by food businesses prevented more than 250,000 tonnes a year of food being wasted in the supply chain (2015 compared to 2010). Overall the amount of good food wasted in the UK reduced by 19% per capita during this period, resulting from concerted and collaborative efforts by the public and private sector.



### Hazardous waste recycling in Japan

The ubiquity of batteries in today's electronic goods has led to a dramatic increase in their production in recent decades, however they can be highly polluting if not recycled properly as they often contain heavy metals such as cadmium, lead, and mercury. In Japan, policies were enacted in 2001 targeting 10 specific industries and 69 product lines with strict 3R (reduce, reuse, recycle) measures, and in 2004 the Japan Battery Recycling Centre (JBRC) was established to manage and oversee the collection and recycling of used batteries. Over 8000 collection sites were opened nationally, with source separation for different battery types and a multi-pronged media approach to educate the public. Central to this legislative action was the use of Extended Producer Responsibility (EPR) through 'take-back' measures, thus shifting the burden for end-of-life products back to the producer and incentivizing the incorporation of environmental considerations into product design. By 2014 - less than two decades after this regulatory mechanism was put in place - Japan had met or surpassed their recycling targets in every category of batteries, reaching over 55% of all used batteries recycled nationally.

### Formalising the informal sector in Tunisia

In Tunisia (and many other places), the informal sector plays a critical role in waste management and recycling, with up to 18,000 waste pickers deriving their income from collecting waste. In two municipalities in Tunis, these Barbechas, as they are known locally, were supported to form an association in order to officially engage with the municipalities. The objective was to formalise and organise the existing informal sector, thereby improving the state of waste management in Tunis while also improving the livelihoods of the waste pickers. Once organised, The Barbechas Associations were able to participate at formal meetings and could assume and negotiate their roles and obligations. The commitment showed during this cooperation agreement by the Barbechas Associations brought them a service contract for beach cleaning from the La Marsa Municipality, while the Neighborhood Associations offered to pay for social and health contributions of the informal pickers serving their neighborhoods. Moreover, by becoming organised, it made it easier for other international entities such as NGOs to focus on supporting the Barbechas either financially or through awareness raising and advocating.

### Electronic waste recycling in the East African Community

In 2017 the East Africa Communications Organization (EACO) adopted a "Regional e-waste management strategy" with the vision of "achieving zero negative impacts of e-waste in EACO member states by 2030". The regional e-waste management strategy was developed on the backdrop of similarity of e-waste management challenges in the East African region, and spelled out the priority e-waste management measures and actions to help actualize the strategy. The strategy mainly focuses on the harmonization of policies and legal frameworks in EACO member states, the establishment of regional infrastructure and easy trans-boundary movements of e-waste in the region. Currently, Rwanda has the region's only state-of-the-art and environmentally friendly e-waste dismantling and recycling facility, managed and operated by the Enviroserve Rwanda Green Park. The facility has a capacity of 7 kilotons of e-waste per year, enough to manage Rwanda's current 6 kilotons/year e-waste output (2016), but more facilities are needed to match the growing regional burden for the East African Community.