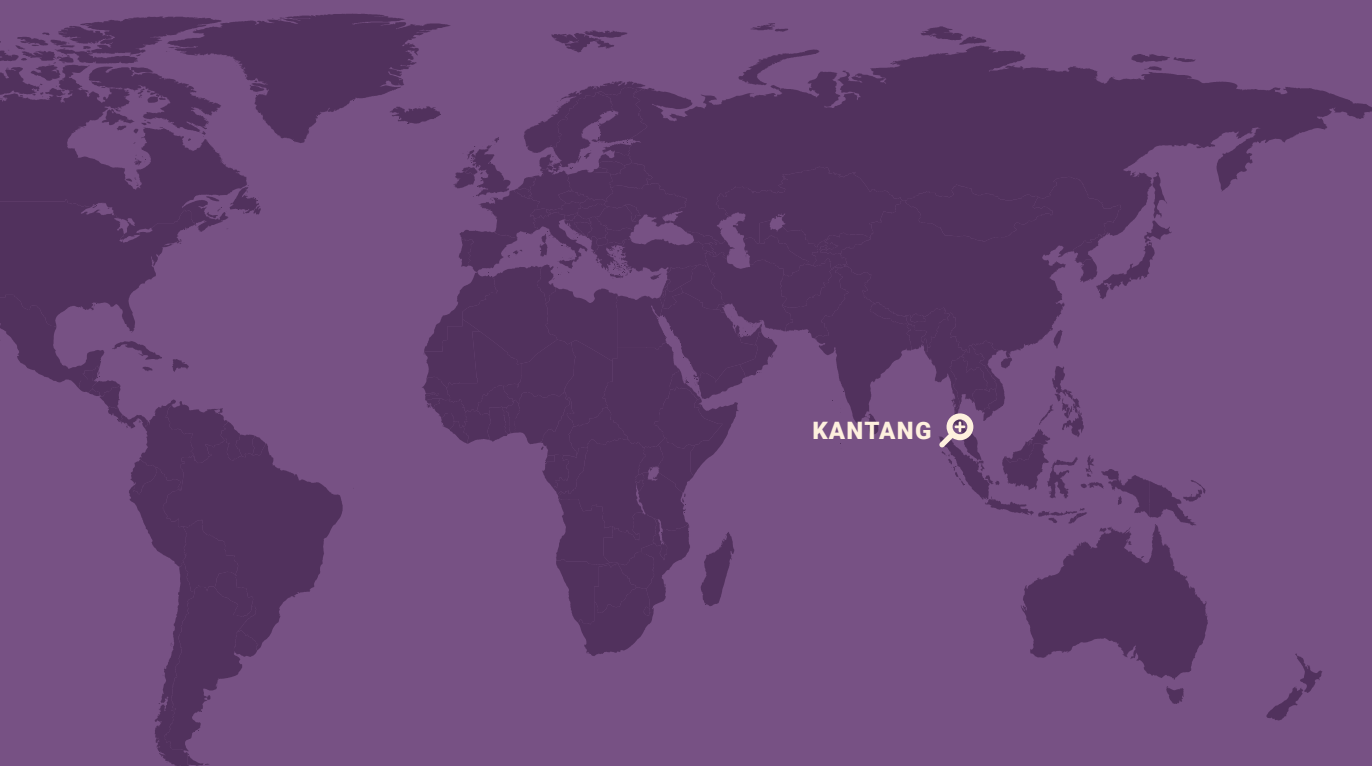


THAILAND | CIRCULAR ECONOMY

Thailand's Plastic Waste Problem and Its Road to Zero Plastic Waste

Thailand is said to be among Asia's biggest consumers of plastic. A lot of it ends up as waste in the environment. But the government is hoping to change this. We take a look at the opportunities and challenges that present themselves in Thailand, from both top-down and bottom-up approaches.



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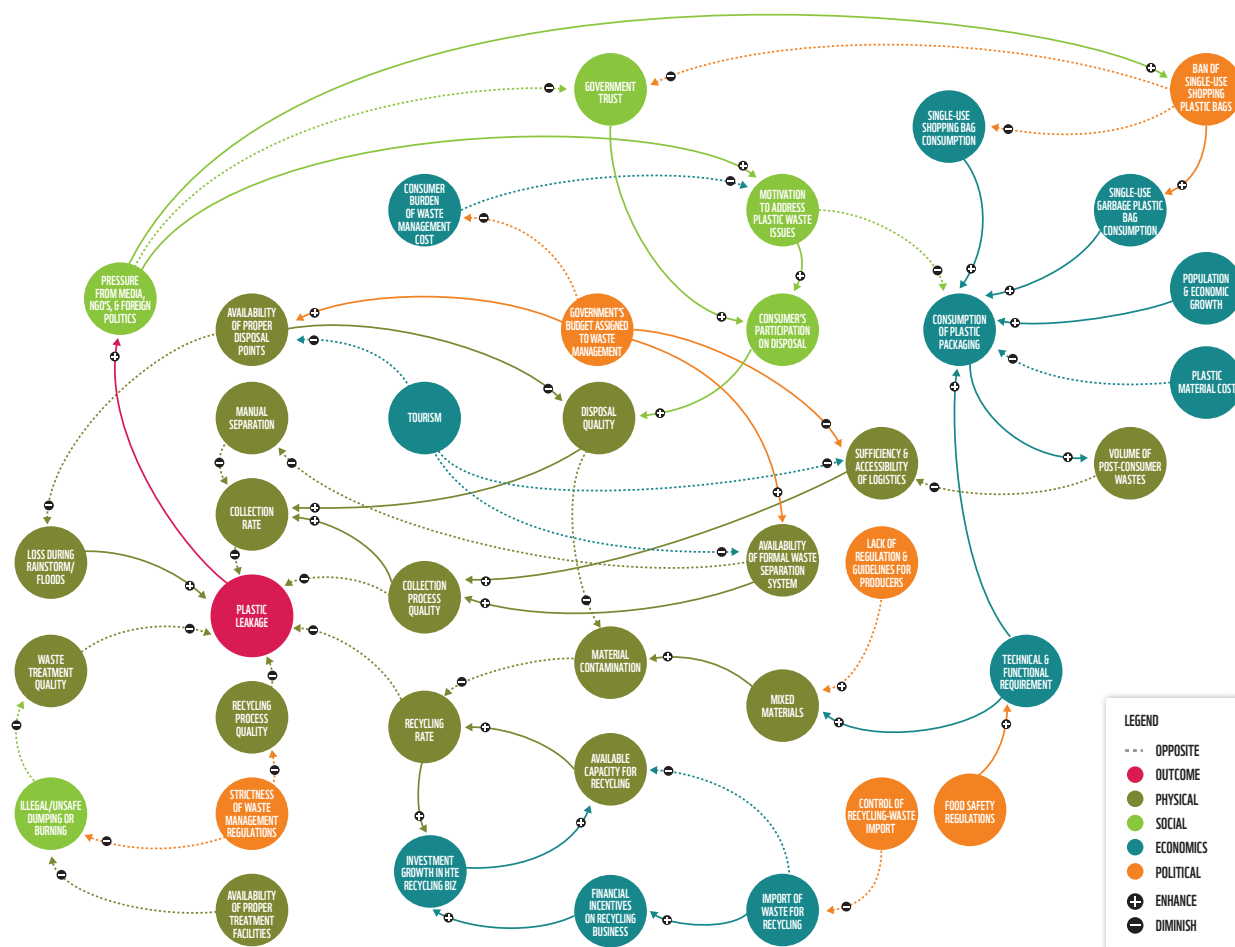


Figure 1: A systems map shows how complex, and yet inexhaustive, the underlying root causes of plastic waste can be.
Image: Metabolic

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The Challenge

The world has seen plastic production balloon from 2 million tons to 348 million tons per year over the last 65 years. This includes a steady growth of plastic packaging. While it has clear benefits like reducing food waste and durability, the plastic waste that ends up in the environment is detrimental to human health and nature.

One country facing this problem is Thailand, where per capita consumption of plastic is among the highest in Asia. The country sees a 7% to 8% annual increase in plastic use attributed to Thailand's population growth and economic development.

According to a report by Metabolic, a Dutch consultancy on sustainability and the circular economy, around 80% of Thailand's plastic waste consists of single-use plastic bags. The COVID-19 pandemic has added to this trend: among other things, businesses have tried to regain consumers' trust by wrapping all products in plastic. Much of this ends up in the environment, especially marine ecosystems.

Figure 1 points to a variety of root causes of the plastic waste crisis. While not exhaustive, they demonstrate how seemingly unrelated factors result in increased plastic waste and litter.



Over 60% of bags are improperly disposed of or leaked into the environment.



Some Reasons for Thailand's Plastic Waste Crisis

- **Political:** The Thai government has historically focused on dealing with water and sewage issues rather than waste. There has been a change in focus in recent times, but this too was impacted by the COVID-19 pandemic.
- **Economic:** The low priority focus on plastic waste means limited resources for waste collection schemes, which in turn result in low service coverage and collection rates.
- **Social:** Thai households often do not know which materials are recyclable and may not sort their waste properly, compounding the challenges to effective waste collection.

The Solution

The Thai government, private sector and civil society are making efforts to curb the ever-growing consumption and disposal of plastic. At the national level, the government has adopted what has been called the Roadmap on Plastic Waste Management 2018-2030. It is being championed by the Ministry of Natural Resources and Environment, Department of Environmental Quality Promotion, Pollution Control Department and PPP Plastic (a public-private partnership including some of the largest plastic producers).

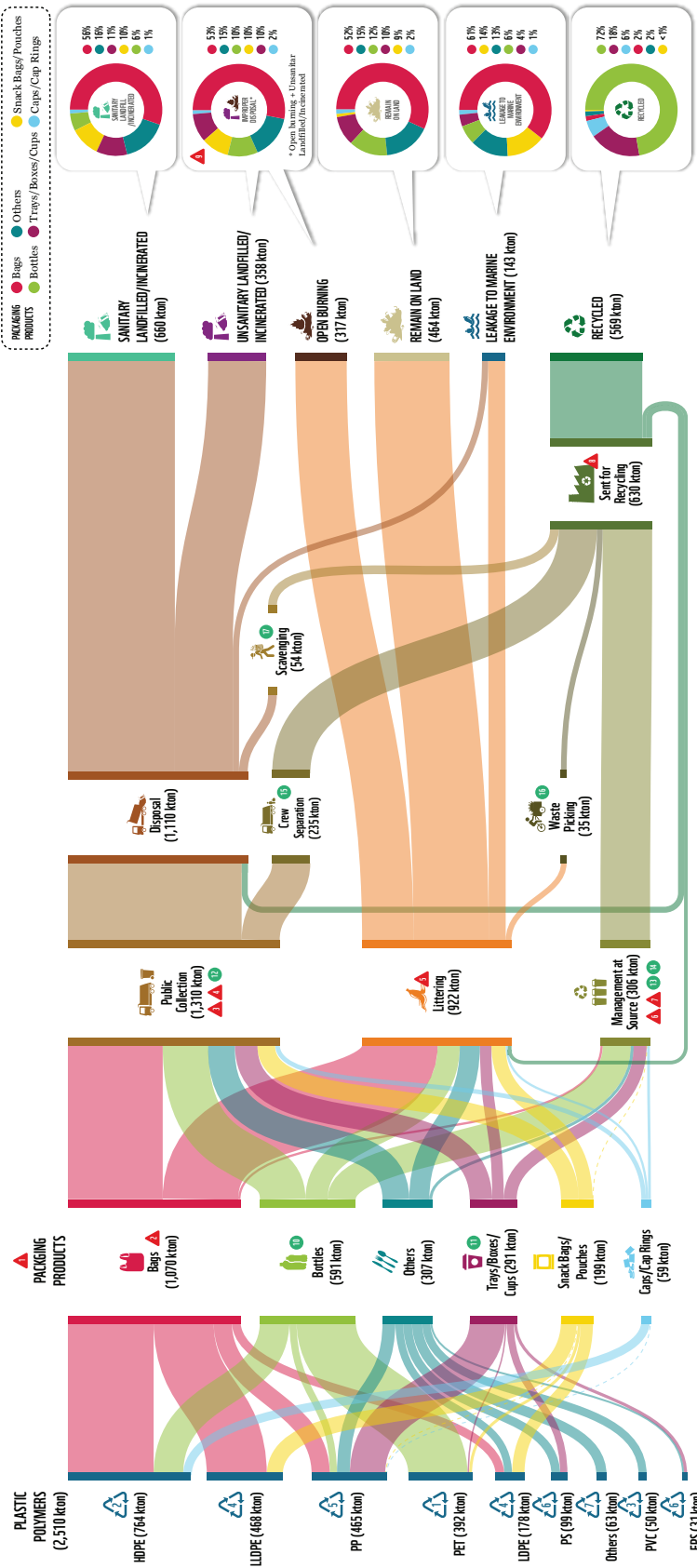
The roadmap lays out ambitious targets, including the development of a plastic waste recycling system that follows circular economy principles. This will start in 2022, with a goal to achieve 100% recycling of targeted plastic waste by 2027.

The roadmap is also identifying fundamental challenges. These range from a lack of legal restrictions on the use of plastic

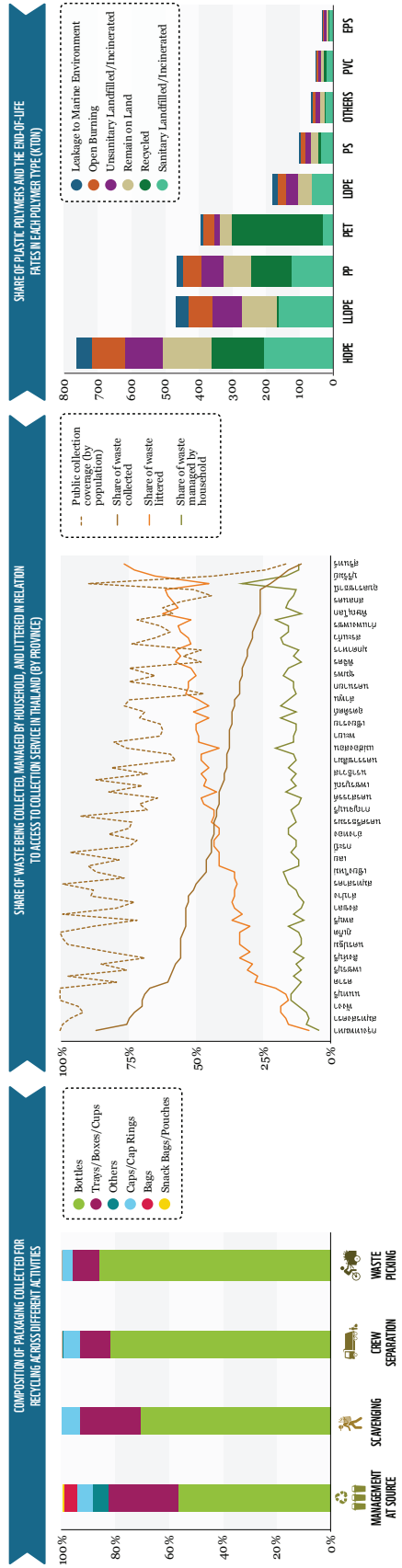
bags, to a lack of regulations to incentivise waste separation and recovery.

To support Thailand in meeting its targets, the World Wildlife Fund (WWF) partnered Metabolic to conduct research into the production, use and disposal of plastics in Thailand. Using a complex systems approach that employed quantitative and qualitative analyses, the study aimed to deepen understanding around the hotspots and opportunities within the Thai plastic waste management system, and to inform and shape further discussions around the circular strategies needed to deliver on future targets.

The research produced an overview of Thailand's plastic waste flow through an approach known as Material Flow Analysis as shown in Figure 2. It sought to facilitate a strategic diagnosis about the entire plastics waste management system in Thailand.



Mapping Thailand's plastic waste flow.
Image: Metabolic



It would make the jobs of these workers more desirable and go some way in alleviating poverty.

It emerged that bags were the most consumed plastic packaging product in Thailand by weight. The problem is they are light, easily contaminated, of low value and rarely recycled. For this reason, over 60% of bags are improperly disposed of or leaked into the environment. Another point to consider is that waste collection varies widely from city to city. For example, each jurisdiction faces constraints in terms of policymaking and allocation of financial resources.

But there are opportunities for improvement. Take waste collection for example. Thailand relies on both formal waste collectors and informal waste pickers. The latter are the largest stakeholder group in the informal sector and collect the largest amount of recyclable or reusable material. However, they

mostly sift out high-value plastic waste that would generate better income, and consequently leave out other plastic items that are considered of low value.

Formally registering these workers could therefore, in a manner of speaking, synergise national and local efforts in tackling plastic waste. For one, these informal workers could become partners with the government and be incentivised to collect waste with lower recycling value. By extension, this would support the public sector in improving the effectiveness of packaging waste collection. Further, it would make the jobs of these workers more desirable and go some way in alleviating poverty. In addition, it would provide waste pickers with the knowledge and equipment to safely perform their work.



Informal waste pickers primarily collect high-value plastic waste that would generate more income. In Kantang Municipality, WWF has engaged waste collectors to also look into picking out non- or low-value plastic waste such as straws, which could then be recycled as pillows, for example, and be distributed to local hospitals.

Image: Kantang Municipality



Waste segregation and collection efforts in Kantang Municipality.
Image: Kantang Municipality

The Outcome

The Metabolic report points to multiple opportunities, as well as challenges, to effect impactful and lasting change in Thailand's plastic waste management. One model put forward to achieve this is Extended Producer Responsibility (EPR). Aimed at eliminating waste and promoting the continual use of resources, this model is often considered a cornerstone of the transition towards a circular economy.

Benefits of EPR

- **Create awareness:** Foster and strengthen societal awareness of packaging waste and waste management issues.
- **Incentivise eco-design:** Provide economic benefits to design resource-efficient, recyclable products.
- **Scale up recycling:** Increase the effective collection and environmentally sound treatment of packaging waste.
- **Pollution control:** Prevent plastic pollution and limit other negative environmental impacts such as greenhouse gas emissions.
- **Private sector investment, commitment or action:** Among other things, mandatory EPR schemes ensure all obligated companies contribute resources to waste management.

To this end, WWF has shared Metabolic's report with key stakeholders including the Thailand Institute of Packaging and Recycling Management for Sustainable Environment, a non-profit organisation made up of associations and members from packaging and consumer product manufacturers. The grouping did not object to the EPR model but reservations remain due to a lack of study of its economic feasibility. Similarly, at the national and policy level, some resistance remains in getting companies to invest in EPR.

On a local level, however, some projects are already underway. For instance, Kantang Municipality in southern Thailand has engaged local communities to champion eco-tourism by reducing plastic waste flowing into the nearby Andaman Sea and to protect its dugong population. Conversations are also ongoing about efforts to repurpose and reuse plastic packaging that cannot be recycled.

It will truly take a village, and in this case a holistic approach, to tackle the problem of plastic waste. And it is hoped that these and other ground efforts will go some way in pushing conversations between the different stakeholders in Thailand, and ultimately engineer greater awareness and actionable change to support national plastic waste achievements and targets. 🌱