

# Where Is the Value in the Chain? Pathways out of Plastic Pollution



The report *Where Is the Value in the Chain? Pathways out of Plastic Pollution* aims to support policy makers in their efforts to address plastic pollution. By examining the economic, social and financial implications of plastic management, the report gives key recommendations on how to create a comprehensive approach to addressing plastic pollution and provides tools to help policy makers make informed decisions.

## Plastic Pollution is a Development Issue

Plastics are ubiquitous in modern life. In recent decades, however, the downside of plastic consumption to society has become apparent as plastic waste has become omnipresent, with huge costs to the environment, biodiversity, livelihoods, and human health, on top of high contributions to greenhouse gas emissions all along the plastic lifecycle.

Over the past decade, the public and private sectors have pioneered policy reforms to reduce plastic pollution. The adoption in March 2022 of a resolution to develop a legally binding global instrument by 2024 is a critical step towards coordinated action to address the full lifecycle of plastic. Interventions are needed at every stage of the plastic lifecycle to stop the leakages and increase circularity but there are broken links along the plastic value chain that prevent the necessary changes.

## Are There Pathways out of Plastic Pollution?

Based on new insights from accumulated experience with existing policies and presenting new analysis from two newly developed models to address key market and policy failures, the report *Where Is the Value in the Chain? Pathways out of Plastic Pollution* shows that a comprehensive mix of coherent policy instruments is most effective to prevent plastic pollution. In other words, policies should align incentives for multiple actors operating in the whole plastic life cycle to jointly contribute to sustainable solutions through voluntary market transactions. This can turn the value chain from linear to circular and reduce the volume of plastic waste.

**The World Bank Group's comprehensive approach to end plastic pollution** includes three key transitions towards greater circularity:

- ① **stop the leakages**,  
a short term priority  
in many countries  
(integrated solid waste  
management, water and  
river basin management)
- ② **increase circularity**,  
a longer-term solution  
to capture value and  
create sustainable  
markets (design out  
waste; reduce, reuse, and  
recycle plastics)
- ③ **restore ecosystems**  
with a focus on job  
creation and livelihood  
support

## Key Principles for Policy Makers

### ① Develop Strategies and National Action

**Plans Tailored to Country Context** Under the forthcoming global, legally binding instrument to end plastic pollution, countries will likely need to develop action plans and policies to manage plastic pollution. Such plans should combine traditional solid waste management solutions with those closer to pollution control, including industrial and product policies. The 3P tools (see below) simulate the financial, social, fiscal, climate, and employment impacts of various policies on firms, households, and government. This helps avoid mistakes in later implementation. The 3P tools also help setting plastics policy targets by informing the social costs of plastics and their alternatives.

### ② Combine Policy Instruments in a Coherent Way

Preventing plastic pollution requires the creation of sustainable markets, which need to be enabled by a comprehensive set of coherent policy instruments. These instruments combine upstream emission control policies, new product policies, incentives to change consumer behavior, and incentives for the private sector to invest and innovate along the whole plastic lifecycle. In any suite of policy instruments, the upstream incentives for producers and consumers are essential for circularity, but a comprehensive approach must include improving solid waste management systems. Although best results are achieved when combining policy instruments, transitioning to a comprehensive approach will take time and requires sequencing.

### ③ Consider the True Cost of Plastics and Alternatives to Society

Phasing out plastics requires considering alternatives and their availability, and substitution choices should be informed by their external costs and benefits compared with the plastic product they would replace. Comparing the full lifecycle costs of plastic products and their alternatives enables better decision making and facilitates agreements on priority goals to be achieved. When deciding how to substitute plastic items, it is essential to compare the benefits of action (such as avoided damages caused by pollution) to the costs of achieving these benefits and the costs of alternatives.

## Filling Knowledge and Methodology Gaps

*Pathways out of Plastic Pollution* is intended to support policy makers and technical experts in their efforts to address plastic pollution by bringing transparency and evidence into often-difficult plastic management dialogues among stakeholders who have limited information, diverging interests, and entrenched habits. It brings insights from the development of two models:

→ **The Plastic Policy Simulator**—A country-level, data-driven model for policy analysis to better describe the impacts of different policy instruments and policy packages on individual economic agents and on the plastic value chain at large. It has been developed as a universal model and piloted in Indonesia. Its objective is to support policy makers and others in government, industry, and civil society in search of policy solutions to stem the flow of plastics by bringing an evidence-based approach to policy.

→ **The Plastic Substitution Tradeoff Estimator**—An innovative Excel-based model that can inform target setting by estimating the external costs of 10 plastic products and their alternatives along their entire life cycle. It was developed and piloted in five countries but can be applied in any country to identify what substitution materials, or what combination of them, would perform best in a given scenario, and to examine tradeoffs between plastics and alternatives to help establish targets for reduction and substitution.

The findings from the development and piloting of the models are consolidated in the *Pathways out of Plastic Pollution* report, which brings greater transparency and evidence into decision-making processes and will help countries in their efforts to end plastic pollution.