

Topic Sheet

Extended Producer Responsibility

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Extended producer responsibility (EPR) schemes have been applied to many sectors and products¹; for plastics, they refer to schemes where industry players who place packaging or other plastics in the market pay a fee that is used to collect, sort and recycle the materials. EPR schemes are considered one of the proven pathways to provide the required funding for collecting and processing of plastic packaging after use at scale; they are a practical implementation of the ‘Polluter Pays Principle’. The widespread adoption of EPR across the entire plastics economy is one of the highest policy priorities for achieving circularity targets. At present, EPR schemes are predominantly used for collection and recycling: their expansion to broader goals including re-design towards reduction and reuse should be encouraged.

EPR schemes incentivize producers to make design changes that reduce waste by improving product recyclability and reusability (for example through product take-back schemes). They require plastic producers to take responsibility, in financial and/or physical terms, for the treatment or disposal of post-consumer plastic waste. EPR could disincentivize wasteful linear production and consumption models (through the application of fixed or modulated fees) and reward models that create circular production and consumption patterns (through lower fees or bonuses).

In addition to creating a price signal for plastic producers and consumers to use plastic responsibly and to rethink product design, EPR also generates a flow of finance that can be used to prevent and tackle plastic pollution by expanding collection, sorting and recycling infrastructure. To support plastic circulation in the entire economy, EPR should be applied across all sectors that create or use plastic products. Research by the World Bank suggests that the application of EPR to all producers and importers avoids free-riders². As the collection, sorting and recycling of plastics is a net cost, it will only happen at scale if these costs are covered by funding that is “dedicated, ongoing and sufficient” as the Ellen MacArthur Foundation points out, which is exactly what EPR does³.

EPR is a proven policy tool that is gaining support globally. While Europe is well known for its EPR schemes which have been around for decades, there are examples of EPR from many other regions as well. Viet Nam will implement an EPR starting in 2024, following a 2-year pilot that began in 2022. The Philippines’s EPR bill came into effect in January 2023 whereby producers must establish EPR programs to reach required recycling rates (20 per cent by 2023, increasing up to 80 per cent in 2028). Similarly, India has a competitive EPR system with multiple producer responsibility organisations (PROs) – this system was originally set up regionally and as of 2023 it was expanded to a national EPR framework including collection and recycling targets. The challenge is that when different jurisdictions have different definitions and criteria for EPR fees, it makes product design more difficult, reducing the effectiveness of the mechanism. Chile approved an EPR packaging regulation in March 2021, which establishes collection and recycling goals for packaging to be mandatory from 2023⁴. In May 2021, EPR Regulations were gazetted in South Africa which made EPR mandatory in the paper and packaging sectors⁵. More information about existing EPR regulation can be found in UNEP’s [Plastic Legislation Explorer](#).

¹ EPR policies are widespread and are used in many applications beyond plastics, including batteries, consumer electronics, textiles and construction material.

² World Bank Group. (2022). Where is the value in the chain? Pathways out of plastic pollution.

³ <https://emf.thirdlight.com/link/cp8djae8ittk-xo55up/@/#id=0>.

⁴ Ellen MacArthur Foundation. (2021). New Plastics Economy Global Commitment 2021 Annual Progress Report, <https://emf.thirdlight.com/link/n1ipti7a089d-ekf9I1/@/preview/1?o>.

⁵ World Wildlife Fund. Extended Producer Responsibility for plastic packaging in South Africa. <https://www.wwf.org.za/?34924/Extended-Producer-Responsibility-for-plastic-packaging-in-South-Africa>.

A common approach and eco-modulation would enhance success

There are numerous elements to consider when establishing an EPR scheme, including product design for reuse or recycling, how to collect used plastic products, whether recycling and/or reuse schemes are in place (or could be put in place), the governance model and the EPR fee level including its eco-modulation criteria. At present, there is no single standard for EPR schemes, resulting in wide variation in practice and performance.

The Organisation for Economic Cooperation and Development (OECD) provides a very useful overview of guiding principles for EPRs⁶. While further evidence is needed about the optimum application of EPR schemes and the trade-offs involved, the Ellen MacArthur Foundation has identified scheme design⁷ as critical to the effectiveness of EPR schemes.

OECD Guiding Principles for EPRs

The OECD Guidance Manual⁸ includes six checklists for policy makers as well as the following set of guiding principles for the design and development of EPR policies and programmes:

- EPR policies and programmes should be designed to provide producers with incentives to incorporate changes upstream at the design phase in order to be more environmentally sound.
- Policies should stimulate innovation by focusing more on results than on the means of achieving them, thus allowing producers flexibility with regard to implementation.
- Policies should take into consideration a life cycle approach so that environmental impacts are not increased or transferred somewhere else in the product chain.
- Responsibilities should be well defined and not be diluted by the existence of multiple actors across the product chain.
- The unique characteristics and properties of a product, product category or waste stream should be factored into policy design. Given the diversity of products and their different characteristics, one type of programme or measure is not applicable to all products, product categories or waste streams.
- The policy instrument(s) selected should be flexible and chosen on a case-by-case basis, rather than setting one policy for all products and waste streams.
- Extension of producer responsibilities for the product's life cycle should be done in a way to increase communication between actors across the product chain.
- A communication strategy should be devised to inform all the actors in the product chain, including consumers, about the programme and to enlist their support and co-operation.
- To enhance a programme's acceptability and effectiveness, a consultation of stakeholders should be conducted to discuss goals, objectives, costs and benefits.
- Local governments should be consulted in order to clarify their role and to obtain their advice concerning the programme's operation.
- Both voluntary and mandatory approaches should be considered with a view on how to best meet national environmental priorities, goals and objectives.

The European Commission has also developed guidance on EPR⁹. Given their systemic qualities, effective EPR schemes would benefit from the deployment of complementary policies. These include mandates for (and enforcement of) the separation of recyclable materials from waste, landfill bans for recyclable materials, and targeted measures such as deposit return systems which can achieve high rates of collection and recycling for specific product and packaging types. Citizen information campaigns explaining

the necessary household actions to support EPR will aid compliance, as will clear labelling of plastic products to ensure they are directed into the EPR pathway. Basic enabling legislation is needed for all recycling systems, including those supported by EPR, ensuring consistent national scale implementation, and making international harmonisation possible. Another essential component is ensuring clarity and communication about who responsible parties are and their responsibilities.

⁶ OECD. (2016). Extended Producer Responsibility: Updated Guidance for Efficient Waste Management. OECD publishing, Paris. <https://www.oecd-ilibrary.org/docserver/9789264256385-en.pdf?expires=1675366659&id=id&accname=ocid195767&checksum=BD15BFEE0E20A2ED538943EAF97E177A>.

⁷ Ellen MacArthur Foundation. (2021). Extended Producer Responsibility a necessary part of the solution to packaging waste and pollution. <https://emf.thirdlight.com/link/cp8djae8ittk-xo55up/@/>.

⁸ OECD. (2016). Extended Producer Responsibility: Updated Guidance for Efficient Waste Management. OECD publishing, Paris, page 38.

Designing fees and modulation

In an EPR scheme, companies must take either individual or collective responsibility for their products and packaging waste. Since it is more challenging to monitor and enforce systems based on individual responsibility, collective responsibility models are more common. A collective responsibility system requires a central organisation within the EPR to coordinate activity within the system. This organisation is known as the PRO or the system operator, and takes over the responsibilities of the obliged companies in the collective system. This obliges companies to take joint responsibility for their products and the packaging waste that they create.

There are a multitude of ways in which the financing and fees arrangements in collective EPR schemes can be structured. However, in general, EPR fees should be modulated to reflect the difficulty and cost to recover, reuse or recycle each material. The European Commission has developed a guiding principle on costs which essentially provides that fees paid to a collective system by a producer should reflect the true end-of-life management costs of its products¹⁰. According to the Consumer Goods Forum¹¹, there are a number of key considerations (endorsed by 26 of the world's leading consumer goods companies in 2020) when designing the financial structure for an EPR scheme. These are:

1. **Each type of material should pay its own way**
The fee for a material should be in direct relation to the cost of collection and recycling of that material. Any material that pays fees into an EPR

program, must be matched by the producers with an accompanying plan to improve the recycling capabilities of these materials.

2. **EPR should operate on net cost basis**
Eco-modulation should include the net costs associated with the collection, sorting and recycling of a material stream. Incentivising the use of materials.
3. **Investment into system improvement**
To ensure meaningful use of revenue raised, income should be ring-fenced and used in a targeted manner to the improvement of collection and recycling, consumer awareness campaigns and technology. This also involves de-risking investments into new and novel technologies.
4. **Full cost vs. partial cost recovery**
In terms of financing an EPR scheme, the division of costs depends upon how individual EPR schemes are constituted within the various countries. The costs covered should focus on collection, sorting, recycling and consumer awareness and behaviour campaigns.
5. **Harmonisation across jurisdictions**
Ensuring equal and consistent eco-modulation of fees across markets and regions is critical. For this, an agreed set of criteria, such as the definitions of recyclability, is needed. Different eco-modulation systems within one country (or in the longer term by region) undermines the viability of the system and should be consistent across all municipalities and actors in the value chain.

How to establish effective EPR schemes¹²

Phase 1 Scoping: This phase should seek to: a) take lessons learned from how EPR has performed in comparable markets; and b) establish a comprehensive understanding of the waste management and cost landscape in the focus market.

Phase 2 Stakeholder engagement and set up: This phase should a) engage industry in discussions and clearly set out key parameters of the programme, including defining the producer, the consumers (businesses, households or commercial waste), scope of materials covered and reporting protocols; b) form a third-party PRO to collect funding, cooperate with local authorities and ensure cost-efficient recycling; and c) run commercial scale pilots.

Phase 3 Formalisation: Establish enabling policies for EPR, engaging with government in a manner most appropriate to the local context.

For an EPR scheme to be effective, some key enablers need to be considered. This includes a clear national labelling system, collaboration of institutions and sufficient communication and education of all actors. National consistency (i.e. not having provincial/municipal variations) of EPR policy helps drive effectiveness. Harmonised, transparent and consistent monitoring and evaluation of existing and newly implemented EPR schemes is a crucial success factor. Finally, the success of EPR schemes rely heavily on sufficient waste management structures and other interlinked policies and should not be implemented as a standalone policy. Independent evaluation of the effectiveness of EPR schemes should be built into policy design.

⁹ European Commission. (2014). Development of Guidance on Extended Producer Responsibility available at https://ec.europa.eu/environment/archives/waste/eu_guidance/pdf/Guidance%20on%20EPR%20-%20Final%20Report.pdf.

¹⁰ Refer to statement number 4 on the true end-of-life costs principle in the European Commission (2014) Development of Guidance on Extended Producer Responsibility available at https://ec.europa.eu/environment/archives/waste/eu_guidance/pdf/Guidance%20on%20EPR%20-%20Final%20Report.pdf.

¹¹ Consumer Goods Forum. (2022). Guiding Principles for the Eco Modulation of EPR Fees for Packaging. <https://www.theconsumergoodsforum.com/wp-content/uploads/2022/02/Guiding-Principles-for-the-Ecomodulation-of-EPR-Fees-February-2022.pdf>.

¹² Consumer Goods Forum. (2022). Building a Circular Economy for Packaging. <https://www.theconsumergoodsforum.com/environmental-sustainability/plastic-waste/>.

Minimum global norms could consider EPR guidelines in this way

Fragmented national approaches to EPR do not work in practice where the standards, types of plastics regulated, fee structures and responsibilities differ across the provinces or municipalities resulting in inconsistent collection and recycling systems and rates, and disengagement from industry and the general public¹³. Shared guidelines and minimum standards for EPR are necessary to define the desirable necessary minimum operating standards of EPR schemes.

Without these, global imbalances can persist and new schemes could be developed without sufficient evidence for effectiveness. A common rulebook within a global framework would aid in harmonising national approaches while still allowing for context-specific adaptation. This topic sheet brings together some of the existing efforts in this sense as a starting point.

Additional resources

Organisation for Economic Co-operation and Development. Extended Producer Responsibility webpage. <https://www.oecd.org/environment/extended-producer-responsibility.htm>.

Ellen MacArthur Foundation. (2021). Extended Producer Responsibility - Statement and Position Paper. <https://emf.thirdlight.com/link/cp8djae8ittk-xo55up/@/#id=0>.

Consumer Goods Forum's webpage on plastic waste. <https://www.theconsumergoodsforum.com/environmental-sustainability/plastic-waste/>.

Integrate Extended Producer Responsibility within the International plastics Treaty. (2022). Common position Paper. https://apps1.unep.org/resolutions/uploads/integrate_epr_within_the_international_treaty_on_plastics_pollution_1.pdf.

PREVENT Waste Alliance. EPR toolbox. https://prevent-waste.net/wp-content/uploads/2022/09/PREVENT-Toolbox-interactivePDF_2022lowres.pdf.

World Wildlife Fund. Extended Producer Responsibility project webpage. https://wwf.panda.org/wwf_news/?356332/Extended-Producer-Responsibility-Project.

¹³ Global Plastics Policy Centre. (2022). A global review of plastics policies to support improved decision making and public accountability. March, A., Salam, S., Evans, T., Hilton, J., and Fletcher, S. Revolution Plastics, University of Portsmouth, UK.

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