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IEEP, with the support of the MAVA Foundation, has prepared a short study to develop policy options to enhance the ambition of extended producer responsibility (EPR) schemes for plastic packaging. This briefing summarises the key findings and policy options. It is intended to input to discussions on the EU Plastics Strategy and Circular Economy Package and their future implementation, with a view to encouraging a more sustainable use of plastics.

EPR IN THE EU PLASTICS STRATEGY AND CIRCULAR ECONOMY: A focus on plastic packaging

Plastic packaging waste requires greater policy attention

Packaging is the main user of plastics in Europe, accounting for around 40% of plastics demand (Plastics Europe, 2016). Around 15.4 million tonnes of plastic packaging waste were generated in 2014 (Eurostat, 2017), with **around 40% recycled in 2015** (Plastics Europe, 2016). However, **landfilling and incineration are still common** for plastic packaging waste (Plastics Recyclers Europe, 2016), and a large amount also ends up in the environment and oceans as **marine litter** (Jambeck et al, 2015).

Increasing recycling and reuse of plastic packaging is crucial to Europe's plastic waste management. Extended producer responsibility (EPR) has the potential to play a key role, by evolving from a cost recovery approach to one that also incentivises a transition to a circular economy.

There is diversity of EPR schemes for plastics in the EU

Twenty-six EU Member States currently have EPR schemes in place for packaging waste. The schemes take **varying approaches to EPR**, for example collective (CPR) vs individual producer responsibility (IPR). Nine countries have **competing schemes**; 12 have only one scheme. Some producer responsibility organisations (PROs) assume only **(simple) financial responsibility**, whilst others have **partial or full operational responsibility**. Some schemes cover only certain types of packaging, i.e. **household/equivalent packaging vs commercial and/or industrial packaging**, or both.

All schemes include some **basic fee modulation** (charging differing fees to producers for each packaging material), with **fees per tonne for plastic and for composite packaging materials typically significantly higher** than those for other packaging materials (Pro-Europe, 2017) (for example EUR 211 per tonne for PET/HDPE and EUR 246 for drink cartons compared with EUR 124 for steel, EUR 33 for aluminium, EUR 21 for glass and EUR 17 for paper/card in the Belgian Fost Plus scheme (Fost Plus, 2015, 2017)). Some schemes charge **specific fees for different types of plastic** (e.g. PET/HDPE, beverage cartons, expanded polystyrene, bio-plastics/bio-degradable plastics and plastic bags).

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However, few schemes have more advanced **eco-modulation of fees** (e.g. applying no fee to reusable packaging, higher fees for non-sortable/non-recyclable packaging, or higher fees for packaging with additives that disrupt recycling). The most notable examples are CITEO (France) and CONAI (Italy).

The performance of EPR schemes varies across the EU

EPR schemes have several **strengths**. They have helped to create more efficient **separate collection schemes** (including through economies of scale), to **reduce disposal** and **increase recycling**. In many cases they **reduce the burden on public budgets** for municipal waste management and increase the **cost efficiency of collection and recycling**. They also contribute to the generation of separated, high quality secondary raw materials, supporting **market development** and contributing to **resource security**. **Fee modulation** within EPR **has the potential to encourage producers towards eco-design**.

Nevertheless, the existing application of EPR for plastics in the EU also suffers from several **weaknesses**. The **lack of a common approach** leads to **differing implementation and performances** across the EU. **Data is lacking to assess impacts** of EPR schemes. In some cases, schemes are **not adequately controlled or monitored** to ensure effective and efficient functioning and producer compliance. **Existing (weight-based) fee structures** have led to a focus on light-weighting, which risks rewarding lighter but less recyclable materials. The preference for collective over individual schemes can **dilute responsibility and lead to free-riders**. Some EPR schemes **do not cover full waste management costs**. Finally, EPR measures have so far **largely failed to incentivise packaging producers towards eco-design**.

There are opportunities and needs for more ambitious EPR

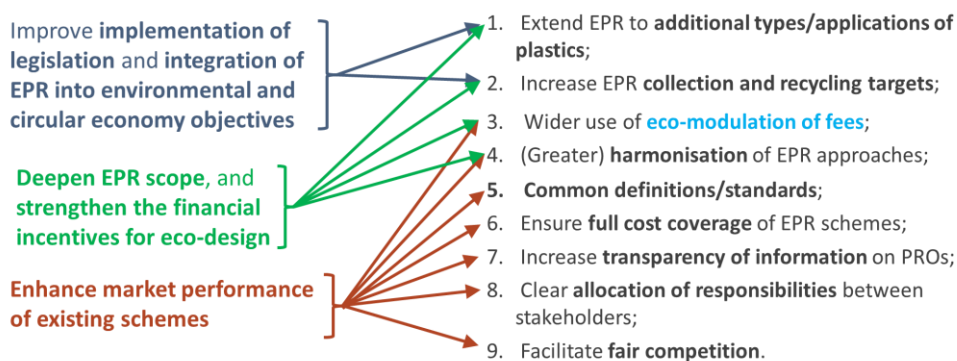
Enhanced EPR measures could help to improve EPR schemes in three main ways.

Firstly, they could help to **improve the implementation of legislation** (e.g. to attain existing and new, more ambitious, waste targets), and the **integration of EPR into environmental and circular economy objectives** (e.g. through wider application of EPR to other products). This would contribute to **reducing the environmental externalities of packaging waste** (e.g. natural resource depletion, GHG emissions and waste leakage to terrestrial and marine environments, with associated impacts).

Secondly, changes to EPR could **deepen its scope**, and **strengthen the financial incentives for eco-design**. Economic incentives should be developed to favour circular products and business models (e.g. through harmonised criteria and the further application of modulated fees to **support the waste hierarchy** and incentivise more environmentally sustainable products).

Thirdly, improved EPR could **enhance the market performance of existing schemes**. This could be done by: developing **clearer definitions** at the EU level to support harmonised approaches; ensuring **clear allocation of responsibilities** between stakeholders; ensuring maximum **cost coverage**; facilitating **fair competition**; and ensuring **transparency** on schemes' performance and costs.

Figure 1 Opportunities for greater EPR ambition and how to achieve it



A toolkit of policy options are available – and eco-modulation of fees offer particular opportunities for progress

The study considered a series of options to increase the ambition of EPR schemes, including several **options for the eco-modulation of fees**. These are outlined in Table 1 below. The options were discussed with participants during two events held in Brussels: an expert roundtable (18 October 2017) and a report launch (7 November 2017).

Table 1 Potential criteria for fee eco-modulation

Potential criteria for fee eco-modulation	Ambition/aim	Existing examples	Is fee modulation in PRO-based EPR schemes promising?
Basic modulated fees on plastic packaging	Sustainable packaging	Most EU countries	Yes: already widely used to differentiate between materials
Reusability	Encourage reuse	Cyprus, Czech Rep., Italy	Maybe not: currently well addressed by deposit refunds/reverse logistics
Recyclability:	Encourage recycling		Yes: driver for eco-design and increased recycling, to generate secondary raw material, facilitate use of recycled content, and reduce cost of recycling Agreed definition of recyclability (or aspects of recyclability) essential
▪ Existence of sorting/ recycling technology	Enable recycling	France, Italy	
▪ Composite packaging	Use where specific added-value	Many EU countries	
▪ Non-hazardous but disruptive additives	Minimise such additives	France	
▪ Packaging format design	Simplify recycling	Italy, France	
▪ Hazardous additives	Avoid such additives	-	
▪ Existence of markets for secondary raw material	Supply of materials for markets	Italy	
Recycled content of plastic packaging	Sustainable sourcing / circularity	Germany (from 2019)	Yes: driver for use of secondary raw material and market development
Bio-based, biodegradable or compostable plastics	Encourage bio-economy / non-fossil plastics	Austria, Latvia, Netherlands	Maybe: bio-based plastics OK; biodegradable/compostable plastics come with challenges
Eco-design criteria	Encourage eco-design	-	Maybe not: aspects of eco-design addressed by other criteria
Size of packaging	Discourage excessive packaging	Italy	Not currently: some small items technically recyclable; could be reassessed in future
Lifecycle assessment	Integrate full life cycle impacts	-	Not currently: common approach not yet in place, and lifecycle costs vary between countries
Number of units	Reduce number of items	-	Not currently: could be reassessed in future

This study has identified several promising options for **eco-modulation of fees**:

1. Fee modulation based on aspects related to the **level of recyclability** of plastic packaging, accompanied by a **common EU definition of recyclability**:
 - a. **Existence of technology to sort and/or recycle** the packaging: building on the experiences of the French CITEO and Italian CONAI schemes, and taking into account accessibility/feasibility and best available technologies;
 - b. **Composite packaging** (i.e. packaging with different layers/components): modulating fees based on the separability and recyclability of the parts/layers of packaging;
 - c. **Non-hazardous but disruptive additives** (e.g. opacifiers): these make items difficult to sort and/or contaminate the material stream, hampering recycling and the development of markets for secondary raw materials;
 - d. **Packaging format design**: to favour packaging that can be properly sorted and recycled due to its format (e.g. form/shape, labels, glues, inks, lids, pumps);

Windows of opportunity

There are two key current windows of opportunity at the EU level to increase the ambition of EPR schemes regarding plastics: the publication of the **EU Plastics Strategy**, and the final adoption of the **EU Circular Economy package**.

EPR can play a significant role in the implementation of both.

- e. **Hazardous additives:** including a means of identifying such packaging to determine additional fees or fines on responsible producers;
 - f. **Existence of markets** to use secondary raw material: as with the new Italian CONAI fees;
2. Fee modulation based on the **amount of recycled content** of plastic packaging: including a definition of recycled content, quality standards, and a system of traceability for recycled material. Care should be taken to ensure recycled plastic is not diverted away from beneficial non-packaging applications.
 3. Fee modulation based on **bio-based materials, biodegradability and/or compostability:**
 - a. **Bio-based non-degradable plastics:** many can be recycled with fossil-based plastics;
 - b. **Biodegradable or compostable plastics:** this offers future potential, but comes with challenges: lack of clarity on material properties and intended after-use pathways, potential cross-contamination with recycling streams, and related benefits and costs.

Other options for the basis of eco-modulation of fees that were considered but are not currently proposed as preferred options include: lifecycle assessment/Product Environmental Footprint (PEF) of a product; reusability of plastic packaging; size of packaging/number of units; and specific eco-design criteria for plastic packaging.

Several **general policy recommendations for EPR** have also been identified, which are **of relevance to the implementation of the EU Plastics Strategy and the Circular Economy Package:**

1. **(Greater) harmonisation of EPR approaches:** e.g. through EU level legislation or guidance;
2. **Common definitions/standards:** including of EPR itself, the calculation of how much product is placed on the market, recycling rates, recyclability, biodegradability and compostability;
3. **Extend EPR to additional types/applications of plastics:** including more types of plastic products, e.g. plastic used in construction, agricultural plastics, medical and pharmaceutical packaging, foils, bulky plastics, disposable kitchenware, furniture, printer cartridges and carpets;
4. **Ensure full cost coverage of EPR schemes:** to ensure that the EPR fees paid by producers cover all collection, sorting and processing costs of the waste concerned;
5. **Increase EPR collection and recycling targets:** to allow ambition above and beyond the achievement of the collection and recycling targets set in EU waste legislation; and
6. **Increase transparency of information** on PROs: including on their fees, operating costs, functioning and performance, to allow a full evidence-based assessment of EPR schemes.

EPR is a vital part of the way forward for the sustainable use of plastics

In pursuing these policy options, it should be noted that **EPR is part of a wider policy mix**, and **coherence should be ensured between the objectives and implementation of EPR and other instruments**. This includes regulatory targets, bans, pay-as-you-throw schemes, waste taxes, product and material taxes, product standards, labelling, voluntary agreements, procurement policies, and information and awareness campaigns. Responsible choices by consumers are also crucial.

It should also be noted that **EPR functions largely around the recycling element of the waste hierarchy**. As such, it is preferable to final disposal and incineration (with or without energy recovery) of waste. However, it should be noted that prevention and reuse are preferred options according to the waste hierarchy. For this reason, **EPR schemes should be designed in such a way that they do not hamper, but rather encourage, actions related to prevention or reuse**.

EPR is therefore a vital part of the picture to **ensure that plastic and its value stay in the economy and out of the environment**, and to **support the transition to a sustainable circular economy**.

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The information and views set out in this publication are those of the authors.

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The full study is available on IEEP's website: www.ieep.eu