



# Circular Economy and Extended Producer Responsibility

*Webinar Report*



**GACERE**

Global Alliance on  
Circular Economy and  
Resource Efficiency



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## ABSTRACT

This report aims at exploring the role of Extended Producer Responsibility (**EPR**) in the transition to a circular economy. It is a synthesis of the concepts exposed in a webinar jointly organized by the Global Alliance on Circular Economy and Resource Efficiency (**GACERE**) and the Organisation for Economic Co-operation and Development (**OECD**) in June 2022. Firstly, EPR is introduced as a crucial element in the promotion of circular economy. Thereafter, theoretical and practical information regarding the implementation of EPR systems is provided. Finally, some practical cases are described, for the reader to benefit from the lessons learned from each of them and suggested resources are provided for further in-depth analysis of the topic.

## EPR in the context of circular economy

Consumption of materials has been projected to more than double in the next 40 years, with significant differences across regions and types of materials. OECD and BRICS countries are expected to display slower pace, but the rest of the world are expected have a **soaring demand for materials**, especially metals and non-metallic minerals. The demand for both of these materials is projected to almost quadruple globally<sup>1</sup>. As a consequence of the increased use of materials, environmental burdens, including emissions of greenhouse gases (GHGs), local pollution and waste generation, will follow a similar growing trend<sup>2</sup>.

According to the Ellen MacArthur Foundation, this growing material extraction and use makes it necessary to envision a future where we dramatically rethink our way of approaching products and their lifecycle in our societies. The Foundation underlines three principles that can guide transformative actions to **shift from linear to circular economies**, namely:

- Eliminate waste and pollution, which relates to the prevention side of the waste hierarchy
- Circulate products and materials (at their highest value)
- Regenerate nature<sup>3</sup>

A circular economy is underpinned by a transition to renewable energy and materials. It decouples economic activity from the consumption of finite resources, and it is a resilient system that is good for business, people and the environment. In other words, tackling the problem of linearity of products does not only mean looking at the downstream side and their end-of-life management. The **upstream** side is equally if not more important, and this means focusing on all the elements that come before the disposal of a product, including the design and manufacturing of the product, the business model that delivers it, and the wider infrastructure to repair or refurbish the product. For instance, in the case of plastics, an overall rethinking of the business model and the product are required instead of focusing only on the packaging aspect, as an example. Material recovery will complement the efforts made in the product design stage in cases where preventing the generation of waste is not possible.

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<sup>1</sup> OECD (2019), [Global Material Resources Outlook to 2060: Economic Drivers and Environmental Consequences](#), OECD Publishing, Paris.

<sup>2</sup> Kaza, S. *et al.* (2018), [What a Waste 2.0: A Global Snapshot of Solid Waste Management to 2050](#), Urban Development Series, Washington, DC: World Bank.

<sup>3</sup> Ellen MacArthur Foundation, [Circular economy key ideas](#), online [Retrieved 27-03-2023].



However, markets do not provide *per se* sufficient incentives for all the actions described, while linear models are currently more attractive from an economic perspective than most circular models. For example, at the end-of-life stage, various costs arise for collection and sorting. These costs are particularly high if the corresponding infrastructure is not well developed. Costs related to **end-of-life** stages of products, or related to the prevention of waste, need to be covered with dedicated, ongoing, and sufficient funding<sup>4</sup>, while voluntary funding by well-intentioned individual producers or public funding are usually not enough.

**Extended Producer Responsibility (EPR)** is a relevant solution and can play a critical role in addressing such challenges. OECD defines EPR as “an environmental policy approach in which a producer’s responsibility for a product is extended to the post-consumer stage of a product’s life cycle”. Based on this definition, the three main benefits of EPR are:

1. The cost of end-of-life management is shifted from local institutions to producers (“**polluter pays**” principle).
2. The **recycling** and **material recovery** rates are boosted.
3. Producers are incentivized to adopt a more sustainable design for products (**design for environment, DfE**).

If handled correctly, EPR systems are also able to stimulate system efficiency, transparency and awareness. In some cases, the responsibility is (partially) passed on from producers to consumers, for example in the form of deposits, which will be paid back upon of the product at the end of its first lifetime.

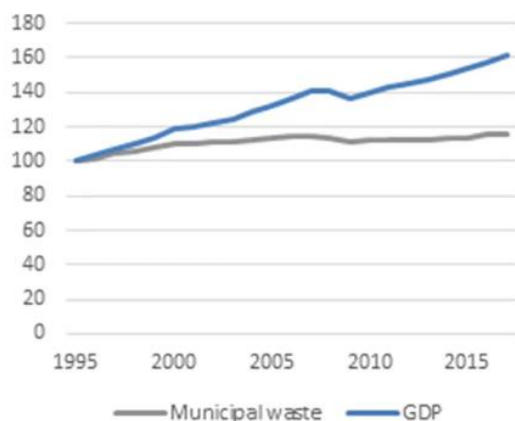
For these reasons, EPR policies have seen a remarkable growth in the last years, becoming a relevant topic not only for developed countries, but also for emerging economies. Data from 2014 show that the electronics sector is where most EPR systems are in place. From a geographic point of view, there is a strong prevalence of EPR systems in Europe and North America. A significant reduction of material intensity in OECD economies has been observed after the introduction of EPR schemes (see Figure 1, next page, courtesy of OECD<sup>5</sup>). In addition, they are among the contributing factors that led to an increase in the recycling rate of MSW (see Figure 2, next page, courtesy of Ellen MacArthur Foundation<sup>6</sup>). In the case of packaging, EPR systems have proved to be an effective tool for driving up collection, sorting and recycling rates.

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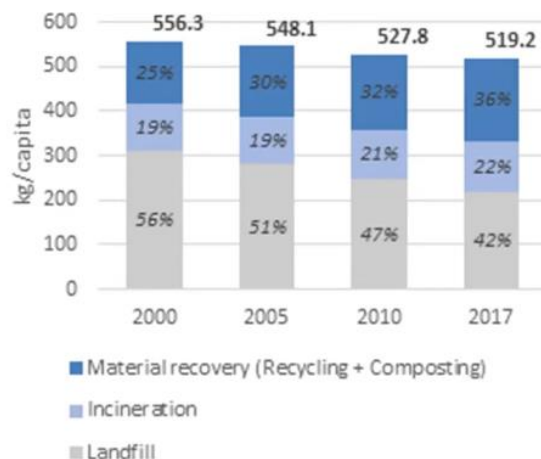
<sup>4</sup> Ellen MacArthur Foundation (2021), [Extended Producer Responsibility – A necessary part of the solution to packaging waste and pollution](#), online [Retrieved 27-03-2023].

<sup>5</sup> Image created by OECD, based on data from the [OECD Statistical Database](#).

<sup>6</sup> Ibid. 4.



(a)



(b)

Figure 1 (a) Decoupling trends in MSW in OECD countries; (b) MSW generation intensities and treatment per capita.

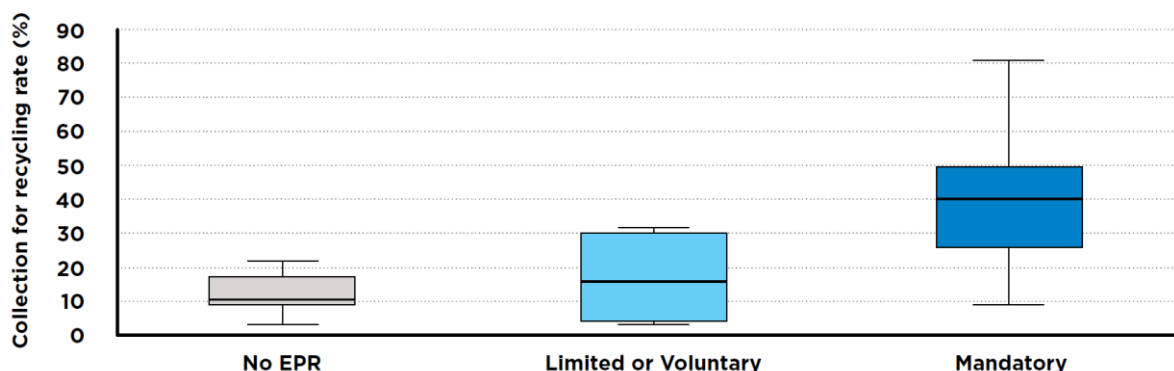


Figure 2 Comparison of the collection for recycling rate for plastic packaging without EPR, with limited or voluntary EPR, and with mandatory EPR.

Furthermore, EPR schemes have shown the potential to generate **significant financial flows**. In the case of the Flanders region of Belgium and of France, such schemes leveraged 200 M€ in 2018 and 1.4 b€ in 2015 respectively. This corresponds to 10% of the costs that local municipalities need to bear for waste management. Building on such successes, policymakers, industry associations and advocacy organizations are (i) exploring the possibility of including new product groups (for instance, textiles and pharmaceuticals), (ii) addressing other environmental issues such as littering and microplastics, and (iii) adapting to new market dynamics (namely, online sales).

Finally, at the global policy level, the concept of Extended Producer Responsibility is in line with the efforts to achieve SDG 12 on sustainable consumption and production. Specifically, EPR's role is captured by the resolution on circular economy<sup>7</sup> and the resolution on ending plastic pollution<sup>8</sup> of the

<sup>7</sup> UNEP/EA.5/Res.11, [Enhancing Circular Economy as a contribution to achieving sustainable consumption and production](#), online [Retrieved 27-03-2023].

<sup>8</sup> UNEP/EA.5/Res.14, [End plastic pollution: Towards an international legally binding instrument](#), online [Retrieved 27-03-2023].



fifth United Nations Environment Assembly (UNEA). EPR is considered as an essential policy tool for the development of a circular economy.<sup>9</sup>

## Implementation of EPR systems

When it comes to establishing how an EPR system can achieve the objective of making a producer responsible for the entire lifecycle of a product, two approaches can be used. Individual producer responsibility (IPR) asks each producer to design its own system, whereas collective producer responsibility (CPR) allows producers to associate and collaborate in order to find collective solutions.

EPR, in its common form of collective system, is typically a **system of funding**, where producers delegate the responsibility for end-of-life management to a Producer Responsibility Organization (PRO), which handles the collection, sorting, recycling, and all the other end-of-life treatments of products. PROs can be for profit or not-for-profit, but they have been found to operate more effectively when an oversight from the government was ensured. In some countries, EPR systems can be government-run, such as the Chinese e-waste management EPR scheme<sup>10</sup>.

EPR can have a financial or organizational focus, or both. While the former is based on the collection of funds from producers to support municipalities in their waste management duties, the latter aims at taking over the organizational and logistical aspects of waste collection, sorting, recycling, and eventual final environmentally sound management. Often, financial and organizational elements of EPR schemes are complemented with elements relating to informational responsibility, such as digital product passports, which facilitate later use and processing stages of products, including re-use, re-manufacturing and eventually recycling (see Figure 3). The governance of EPR systems can take a wide range of formats: monopolistic PRO schemes can be very effective in smaller economies, while competition-based schemes can be preferable when economies of scale are a major factor.

## EPR system setup and involved actors

EPR systems can be designed in various ways. However, the setup and involved actors are relatively similar across different system designs. Usually, one or multiple government agencies are tasked with the implementation of an EPR system for a specified value chain at the national level, and fulfil several functions. They manage the registration of what can be summarized as **distributors** of regulated products (such as packaging), which can be the producers of the products themselves, or importers, retailers etc. (more information on these roles below). They also accredit **PROs** and report back to legislative bodies or other policy making units responsible for the EPR legislation. The government agencies in turn receive fees from distributors and are provided with data and other types of reporting either from a single PRO directly or – in the case of multiple PROs – from a **clearinghouse**. The latter coordinates the work of multiple PROs, mostly through the organization of data collection and appropriate burden sharing through the allocation of collection routes. The PROs in turn have contracts with distributors, provide data and other types of reporting to them, and receive fees from

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<sup>9</sup> UNIDO (2019), [Development of recycling industries within the UNIDO circular economy approach](#), online [Retrieved 27-03-2023].

<sup>10</sup> Cao, J. *et al.*, [Extended producer responsibility system in China improves e-waste recycling: Government policies, enterprise, and public awareness](#), *Renewable and Sustainable Energy Reviews*, (2016), 62.



them. They are also in contractual arrangements with municipalities and/or commercial collection and processing entities, which receive payments from the PROs for their collection and processing activities and in turn report back to the PROs. Depending on the arrangements between municipalities and commercial collection and processing entities, there may also be payments for services between them (see Figure 3<sup>11</sup>).

Individual EPR systems may be simpler or more complex in design than the generic example described above and pictured in Figure 3. In a simpler version, the involvement of only one PRO eliminates the need for a clearinghouse, whereas IPR systems or purely government-run EPR systems do not rely on dedicated PROs and clearinghouses at all. A more complex version of the generic system described above is one that additionally uses **tradable credits**, which distributors receive for collected and processed end-of-life products.<sup>12</sup>

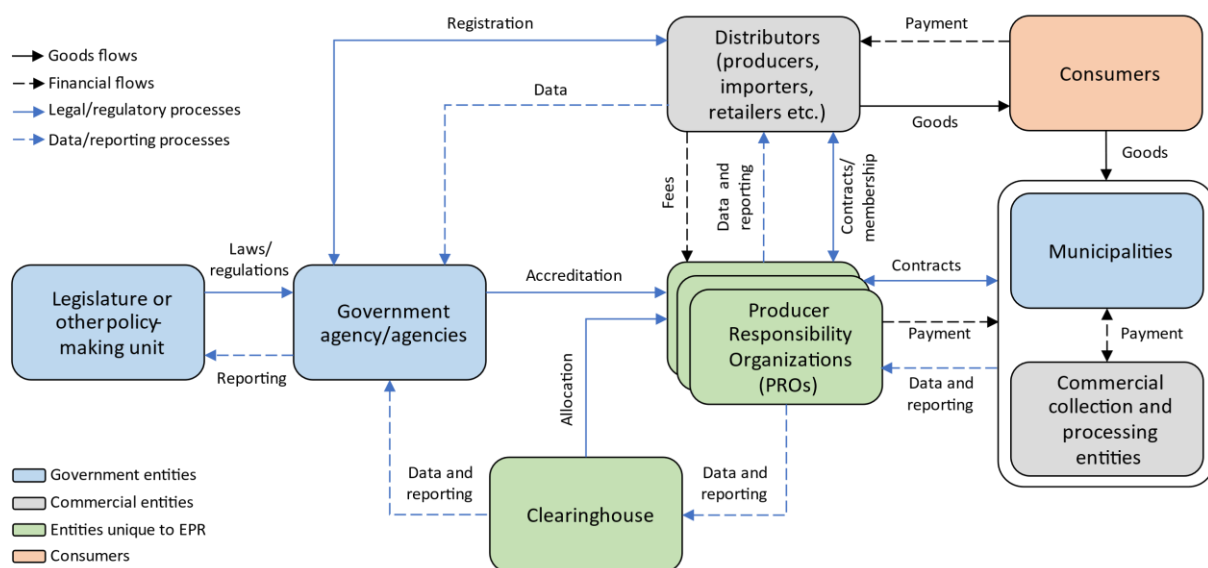


Figure 3 Generic setup of EPR system involving multiple PROs.

Broadly speaking, the different actors in EPR systems are addressed through two types of instruments<sup>13</sup>:

1. **Product take-back requirements:** distributors are assigned responsibility for the collection (and eventual recycling) of end-of-life products. Consumers may additionally be incentivized to return products.
2. **Economic and market-based instruments:**
  - Deposit-refund schemes, in which an initial deposit made by consumers at product purchase is (partially) refunded when the product is returned to a specified location.

<sup>11</sup> Own illustration adapted from OECD (2016), *Extended Producer Responsibility: Updated Guidance for Efficient Waste Management*, OECD Publishing, Paris, p.72.

<sup>12</sup> OECD (2016), *Extended Producer Responsibility: Updated Guidance for Efficient Waste Management*, OECD Publishing, Paris.

<sup>13</sup> Ibid.



- Advance disposal fees, which are levied on products at purchase based on the estimated prices of collection and processing.
- Primary raw material taxes, which encourage the use of secondary raw materials in the manufacturing of products and can be used to finance collection and processing of end-of-life products.
- Upstream combination tax/subsidy, which is a tax on producers used to subsidize waste treatment, while at the same time incentivizing producers to alter material inputs into their products.

In addition, EPR systems may be complemented by more instruments, which can influence their effectiveness<sup>14</sup>:

1. **Regulations and performance standards**, such as a minimum recycled content, which can encourage a contribution by producers to increase the take back of end-of-life products and thus recycling.
2. **Information-based instruments**, including reporting requirements for producers, consumer-targeted product labels and more specific product information, such as digital product passports, which enable the recirculation of products, components and raw materials.

The definition of different roles in EPR systems largely depends on national legislation. Even though different systems might comprise of varying combinations of government agencies, PROs, municipalities, collection and processing entities etc., most of them have relatively clearly defined roles. However, it is often not clear which commercial actors in the production and distribution value chain are addressed under the umbrella term “producer” (above, the more general term “distributor” was used). Providers of compliance advice often refer to the respective national legislation. For instance, in the case of packaging, the German Packaging Act<sup>15</sup> implements EPR by assigning responsibility to all “distributors”, which are defined as those entities that place packaged goods (regardless of whether they provided the goods or the packaging) on the German market for the first time. This therefore also entails all kinds of (online) retailers, regardless of their country of origin, which sell goods on the German market.

## Fee modulation

Based on the generic EPR system setup outlined in the previous paragraph, the funding mechanism of EPR pivots on the determination of the fee that distributors need to pay to a PRO upon putting a product on the market. In principle, EPR fees should be modelled in such a way to reflect the “**true cost principle**”. In essence, this means that the fee should cover for all the end-of-life costs related to a specific product, but also environmental and social costs of the product’s externalities. Fees can be established using two methods (see Figure 4<sup>16</sup>):

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<sup>14</sup> Ibid.

<sup>15</sup> German Packaging Act (Gesetz über das Inverkehrbringen, die Rücknahme und die hochwertige Verwertung von Verpackungen (Verpackungsgesetz - VerpackG), July 2017).

<sup>16</sup> Own illustration adapted from Sachdeva A. *et al.*, [Extended Producer Responsibility and Ecomodulation of Fees](#), Ecologic, online [Retrieved 27-03-2023].





1. **Basic fee modulation** – It is the traditional method, based on the material type. The fee is set per weight or per unit product and has little effect on the design of the product.
2. **Advanced fee modulation** – It is based on measuring the characteristics of a product that determine its impact and externalities, and therefore tries to incentivize DfE.

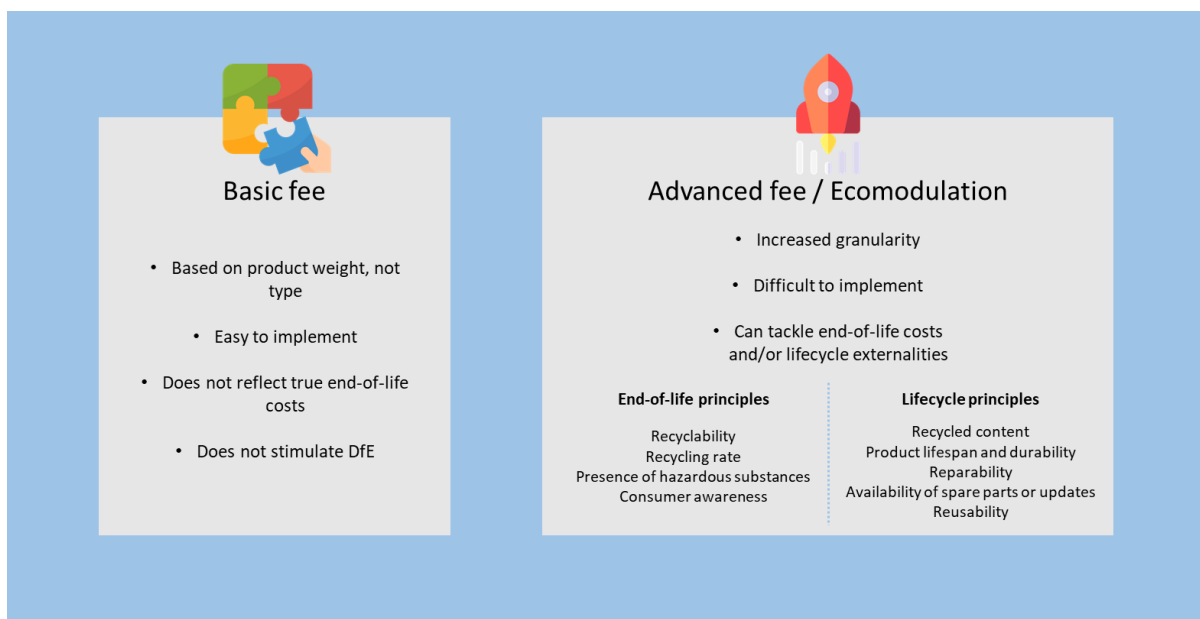


Figure 4 Basic vs advanced fee modulation.

In relation to the three main benefits of EPR schemes, it is widely accepted that EPR are currently achieving the purposes of (i) implementing the “producer pays” principles, and (ii) boosting recycling and material recovery. However, EPR’s influence on DfE has been shown to be very limited. Hence, it is crucial to incorporate the perspective of DfE in the financial structure of EPR schemes. Based on these principles, some countries, especially in Europe, have introduced advanced fee modulation, often also referred to as ecomodulation.

At present, most of the EPR systems in Europe and worldwide still have a strong focus on end-of-life treatments of products, and the potential beneficial effects of EPR fees on other phases of the product lifecycle remain widely untapped. With **ecomodulation**, methods that privilege lifecycle externalities vs. end-of-life externalities can be chosen. Crucially, the size of the fee should be proportional to how far from the top of the waste hierarchy (see Figure 5, next page, an adaptation from the European Commission<sup>17</sup>) the product is found. In other words, products guaranteeing prevention of waste, extended lifecycle, reusability and hazardousness reduction must be taxed at the minimum, therefore incentivizing eco-design.

<sup>17</sup> European Commission, [Waste Prevention and Management](#), online [Retrieved 27-03-2023].



Figure 5 Waste hierarchy in the context of waste prevention and management.

Several recommendations can be drawn from the existing experience of advanced fee modulation, and can be used to more effectively design fees in new or existing EPR schemes<sup>18</sup>.

1. EPR fees must not only cover real end-of-life costs, but also consider **environmental and social externalities**. Lifecycle assessments should determine real end-of-life costs, and bonuses and maluses can be used as incentives to shift to DfE. The “true cost principle” must be applied in a comprehensive way, and measures to prevent waste should also be covered. An approach that only focuses on “necessary costs” incurred for recycling should be avoided.
2. Advanced fee modulation has been found to be less effective in incentivizing DfE when the **product’s fee/price ratio** is not high, which is typically the case for more durable or complex products (such as EEE, textiles or batteries). In this case, fees should be made as granular as possible, in order to differentiate effectively between different solutions with different impacts.
3. When the fee is unable to incentivize consumer choice because of its low influence on the final price of the product, it should be made visible, so that consumers are aware of end-of-life costs and bonuses and maluses associated to the specific product. Furthermore, **reparability and recyclability indexes** can be provided to users. Information on how to find spare parts and extend the life of the product can be included, together with instructions on how to correctly dispose of it.
4. When possible, revenues from **EPR fees should be earmarked** to promote circular economy innovation, research, and civil society actors that contribute to creating a culture of circularity and waste prevention.
5. **Central oversight** should be guaranteed to ensure transparency, accountability and fairness. This aspect is particularly important in competitive schemes, where ecomodulation may induce some producers to switch to different options instead of implementing design changes. Fixed levels of bonuses and penalties decided by a central authority could counteract this tendency.

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<sup>18</sup> Sachdeva A. *et al.*, [Extended Producer Responsibility and Ecomodulation of Fees](#), Ecologic, online [Retrieved 27-03-2023].



Advanced EPR fees, albeit beneficial, involve a **higher level of complexity** for all the stakeholders in the process. Authorities need to have more enforcement capacity to avoid free riding, while producers must be equipped to face different requirements in different markets, resulting in increasing implementation, monitoring, and reporting costs. This might be more challenging to achieve in countries that are only starting to adopt EPR schemes, and ecomodulation can possibly be introduced once the system has matured.

In general, caution must be exerted, as different sectors may respond to advanced fee modulation in very different ways, depending on the above considerations and the geographical range of their market. The cost effectiveness of any proposed solution must be analysed in detail, to avoid the creation of revenue instability for the PROs. For instance, if bonuses are given in higher quantities than penalties are received, the whole EPR system is at high risk of failing.

Alternatively to sector approaches, EPR can be structured as an individual producer's responsibility. In this instance, there exists a more direct link between the producer and the end-of-life management of its products, and consequently DfE becomes a more natural choice.

## Challenges in the implementation of EPR systems

EPR systems have been criticized both regarding economic and social aspects. Addressing such criticism can permit future EPR systems to be more resilient and beneficial for the society at large.

From an economic perspective, EPR policies have been able to achieve remarkable results in terms of financial and environmental benefits. However, criticism has emerged on their tendency to **distort competition**, both on the product market and on the collection, sorting and treatment markets. The latter are particularly affected when monopolistic schemes are in place. Competition authorities, particularly in the EU, have challenged existing systems and demanded for important revisions of their setup to support market competition. Other criticism has focused on the cost-effectiveness of EPR schemes, and studies have strived to compare different models in this regard. While different setups can yield very different results, no clear link exists between higher costs of EPR systems and higher recycling rates<sup>19</sup>. Advanced fee modulation of EPR has proved to be a valid tool for tackling some of the cost-effectiveness problems, and has increased the efficacy of existing systems with respect to the instigation of DfE. Nevertheless, this cannot be regarded as a blanket solution. EPR in general should be a part of a **larger policy mix** for the promotion of resource efficiency and circular economy. Other regulatory approaches, such as standards, recycled content requirements, green public procurement, and taxation of certain externalities are key instruments in the transition to circularity. Such policy mix should incorporate instruments ranging from more binding requirements (such as minimum design requirements) to less binding requirements (such as eco-labelling).

Some specific challenges have emerged when applying EPR systems to **lower-income economies**. Among the most prominent is the lack of infrastructures for waste collection, which makes the implementation of EPR very challenging. A lack of perception of the issue of waste – particularly in some sectors, such as waste from electronic and electric equipment – or a limited sensitization to the separation at source principles can compromise effective functioning. Finally, the issue of identifying

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<sup>19</sup> Bocconi University, Wuppertal institute for Climate, Environment, Energy, CONAI (2022), [Screening the efficiency of packaging waste in Europe](#), online [Retrieved 27-03-2023].



producers, a challenge for all economies, becomes even more relevant in lower-income countries, where informal and repair activities are more common<sup>20</sup>.

From a social point of view, EPR schemes have sometimes shown distortive effects on **informal sector workers**, which may lead to increased poverty and social exclusion. Prior to implementing an EPR scheme, it is critical to assess its potential impact on waste pickers and related workers in the field of waste management, who will compete for valuable materials. Failure to include them in the planning of EPR policies might undermine the functioning of EPR as well as exacerbate inequalities: the challenge here is to offer integration opportunities to such workers, formalize and professionalize their role, in order to improve their health standards without destabilizing their livelihoods<sup>21,22</sup>.

## Methodologies, success stories, lessons learned

This section aims at illustrating EPR schemes by sharing a number of experiences that can provide useful information when exploring the challenges of implementing EPR systems.

The section will start with an overview of the work of the PREVENT Waste Alliance, and then move to concrete cases and experiences from countries that have implemented EPR systems. While Nigeria and South Africa are examples of countries in the early stages of EPR implementation, Italy and Portugal bring the experience of twenty-year-old, mature EPR systems.

### PREVENT Waste Alliance

The PREVENT Waste Alliance, founded in 2019 by the German Federal Ministry for Economic Cooperation and Development (BMZ), is a platform for exchange and international cooperation on topics of waste minimization and resource efficiency, which gathers organizations from the private sector, academia, civil society and institutions. The work of the Alliance is diverse, from capacity building in the field of circular economy to scalable circular pilot projects, from the development of partnerships and business matchmaking to shaping guidelines and standards, including toolboxes.

PREVENT has worked on the creation of an EPR toolbox, incorporating the point of view of several experts, stakeholders and PREVENT members.

*What has been done*

- The EPR toolbox consists of three thematic modules: i) general aspects of EPR, ii) packaging waste collection and sorting, and iii) packaging waste recycling. It comprises real-life cases from 5 countries, 14 factsheets and interactive material, including training. The bulk of the material is available online freely as an interactive PDF (see Annex: Useful Resources).

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<sup>20</sup> Akenji, L. et al., [EPR policies for electronics in developing Asia: an adapted phase-in approach](#), Waste Management & Research, (2011), 29(9).

<sup>21</sup> Talbott, C. et al. (2022), [Extended Producer Responsibility \(EPR\) and Waste Pickers](#), WIEGO Technical Brief No. 15, Manchester, UK: WIEGO.

<sup>22</sup> Schröder, P. (2020), [Promoting a Just Transition to an Inclusive Circular Economy](#), Chatham House, Energy, Environment and Resources Programme, online [Retrieved 27-03-2023].



- The EPR toolbox also forms the basis for a WWF massive open online course (MOOC) (see Annex: Useful Resources).

### *Ideas to develop and lessons learned*

- Data and information about countries must be consistently updated, in order to reflect the rapid changes that EPR schemes may undergo.
- An expert pool can be established to answer requests from implementing countries, and dissemination of knowledge must be promoted, for example through training of trainers;
- The creation of a network of practitioners among PREVENT members for peer-to-peer learning and matchmaking is recommended.
- Space should be given to innovation for broadening the view on EPR in value chains and opening the possibility of global collaborations.

## Nigeria

The Nigerian Food and Beverage Recycling Alliance (FBRA) was established as a PRO in 2018, following the introduction of EPR in the food sector, with a specific focus on packaging.

### *What has been done*

- FBRA is a not-for-profit entity, based on the funding of producers. Starting from 4 producers, it has extended now to more than 20, and diversified its interest on several types of packaging in the food sector.
- Aside from the waste collection activity, it promotes awareness in schools, training for informal workers, community engagement. FBRA also identifies indigenous collection partners, to make the collection sustainable in the long run.

### *Ideas to develop and lessons learned*

- Although it is mandatory for food and beverage producers to join the Alliance, not every producer is on board. It is therefore necessary to engage all the stakeholders with alternative channels, such as events, to get their collaboration.
- High cost of logistics and inadequate infrastructure can hinder the effectiveness of EPR schemes. FBRA is setting up collection centres and working with external partners to make the process more efficient.
- Development of international partnerships has proven to be a key factor for the success of EPR schemes so far, and promises to be able to address waste streams even more thoroughly.

## South Africa

EPR regulations were introduced in November 2020 by the Department of Forestry, Fisheries and the Environment, in the framework of the National Environmental Management Waste Act of 2008.

### *What has been done*

- Three waste streams are prioritized for EPR schemes: i) e-waste, ii) paper and packaging, and iii) lighting.
- Flexibility has been offered to producers as to which PRO they want to join, or to establish their own EPR scheme.



- EPR fees are available to the public domain, and EPR can be implemented in other streams on a voluntary basis.

#### *Ideas to develop and lessons learned*

- Other initiatives for circular economy, waste recycling, etc., must be in place for EPR to be successful, as well as support systems for the implementation.
- Engagement with other countries at different levels of maturity is essential.
- Consultation of stakeholders, including the informal sector, and the creation of a legal basis are the pillars for an effective EPR scheme.
- Guidelines and labelling should help customers easily identify environmentally friendly packaging and products.
- Looking at the local context allows understanding that there is no single way to implement EPR.

## Italy

Consorzio Nazionale Imballaggi (CONAI) is a not-for-profit consortium that oversees the activities of 7 entities that deal with the end-of-life management of packaging materials.

#### *What has been done*

- Fee modulation was initially set up in 1997 as a way to ensure prevention of use of materials at source and was based on weight and material. It was later modified in 2012 to incorporate reusability criteria, and in 2019 to incorporate recyclability criteria.
- Latest modulations of fees have been based on lifecycle assessment principles. Full net cost coverage is now adopted, with full revenue for sale of the material after sorting being deducted from the fee. Paper and plastic materials are classified in different categories, each of which has a different fee.

#### *Ideas to develop and lessons learned*

- Challenges for harmonization of fee modulations are present. To overcome them, it is essential to be consistent on i) reusability and recyclability requirements, ii) metrics adopted, and iii) reflecting the real cost of recycling.
- PROs' business model must be transparent, especially in competitive for-profit models, with member fees being split from service (modulated) fees.

## Portugal

Sociedade Ponto Verde (SPV) was funded by a consortium of producers in 1996, as a private, not-for-profit entity.

#### *What has been done*

- The Portuguese legal framework has always allowed for competition, but this model has materialized only in the last 5 years.
- Most of the PRO costs are defined by the Government, especially with regards to financing local municipalities for waste management. The EPR model is essentially financial, but in some cases PROs can be in charge of collection, if authorized by the municipal partners.



- Ecomodulation, a form of advanced fee modulation, has been introduced by SPV in 2019 with the purpose of addressing the most disruptive packaging solutions for recycling. A malus is paid by producers of certain products, such as PET bottles with aluminium cap, glass bottles with ceramic cap, PET bottles with PVC labels.

### *Ideas to develop and lessons learned*

- Competition must be carefully regulated and oversighted, and it is necessary that price dynamics do not limit the room for competition.
- Ecomodulation must be regarded as a tool for environmental protection, not a competitive differentiating factor, and it must be equal for all PROs.
- Ecomodulation should be structured as a malus rather than a bonus, as this can ensure the financial sustainability of PROs.
- Advanced modulation criteria need to be strongly anchored to the impact of products on collection, sorting and recycling, therefore they must penalize the so-called disruptors. International harmonization of advanced modulation criteria must also be pursued to avoid barriers to trade.

## Acknowledgments

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## Annex: Useful Resources

1. Extended Producer Responsibility – Updated Guidance for Efficient Waste Management  
**Author(s)** Organisation for Economic Co-operation and Development (OECD)  
**Type of resource** Report  
**Description** Published in 2016 as an update of the 2001 document, the review looks at design and implementation challenges and opportunities of EPR policies, takes into account recent efforts undertaken by governments to better assess the cost and environmental effectiveness of EPR and its overall impact on the market, and addresses some of the specific issues in emerging market economies.  
**Available** Online at: <https://www.oecd.org/env/extended-producer-responsibility-9789264256385-en.htm>
2. Going Circular: the EPR Guide  
**Author(s)** World Wildlife Fund (WWF)  
**Type of resource** Massive online open course (MOOC)  
**Description** This course introduces the concept and key elements of EPR schemes. Beyond that, it is a practical guide for the introduction of EPR, particularly in developing countries.  
**Available** Online at: <https://www.wwf-akademie.de/catalog/view/course/id/215>
3. EPR Toolbox  
**Author(s)** PREVENT Waste Alliance  
**Type of resource** Interactive PDF report  
**Description** The EPR Toolbox developed by the PREVENT Waste Alliance is a collection of internationally relevant knowledge on the topic of EPR for packaging. Its aim is to promote knowledge exchange and enhance development of EPR systems worldwide. The EPR Toolbox contains detailed training materials on EPR, practical country examples and a set of FAQs.  
**Available** Online at: <https://prevent-waste.net/en/epr-toolbox/>
4. Webinar on Circular Economy and Extended Producer Responsibility  
**Author(s)** Organized by GACERE and the OECD  
**Type of resource** Webinar, recording and speakers' presentations  
**Description** The first GACERE-organized webinar, created in collaboration with the OECD, targeted GACERE member states and focal points and aimed at raising awareness on the importance of Extended Producer Responsibility in the context of the transition to a circular economy.  
**Available** Online at: [https://unidoccloud-my.sharepoint.com/:f/g/personal/d\\_serra\\_unido\\_org/EgOjfEFcbNBKnTabSU7ZM4gBQZXnMmnyFkkvVusb9ggvIA?e=43p93A](https://unidoccloud-my.sharepoint.com/:f/g/personal/d_serra_unido_org/EgOjfEFcbNBKnTabSU7ZM4gBQZXnMmnyFkkvVusb9ggvIA?e=43p93A)