Landbell Group

COMPETITION AS A POLICY TOOL FOR EFFECTIVE EXTENDED PRODUCER RESPONSIBILITY

How multiple PROs drive efficiency, innovation, and reduce risks

In an era of growing environmental urgency and evolving producer demands, Extended Producer Responsibility (EPR) must adapt. This paper demonstrates how a well-regulated competitive system delivers the efficiency, innovation, and accountability needed to meet circular economy goals, without the systemic risks of monopolies or state-run models.

Introduction

Extended Producer Responsibility (EPR) is based on the "polluter pays" principle, making producers responsible for the full life cycle of their products. It ensures that producers – typically entities that first place a product on the market – finance the collection, treatment and recycling of their products, leading to more efficient waste management systems – a model that functions well in most EU markets.

Unlike other models, EPR secures "dedicated, ongoing, and sufficient financial resources" for proper waste management.[1] It levels the playing field between producers by making them all responsible for managing the collection and treatment of their end-of-life products and packaging. In addition, it provides the necessary funds to build the infrastructure and reducing investment risk, and can also support existing waste management infrastructure. Beyond waste treatment, EPR encourages waste prevention, material efficiency and demand for recycled materials. It promotes transparency and motivates eco-design for recyclability, repairability, and reuse.[2]

EPR is being implemented worldwide, though approaches vary. The most common EU model is competitive, with multiple Producer Responsibility Organisations (PROs) operating as businesses. Some Member States instead use a monopoly model, a single, often state-run, PRO.[3]

This paper argues that competitive PRO systems consistently outperform monopolies, driving better outcomes for producers, the recycling industry, consumers and circularity. It rebuts arguments supporting single-PRO schemes, highlights the risks of monopolies, and proposes policies to advance competition as the standard for EPR globally.

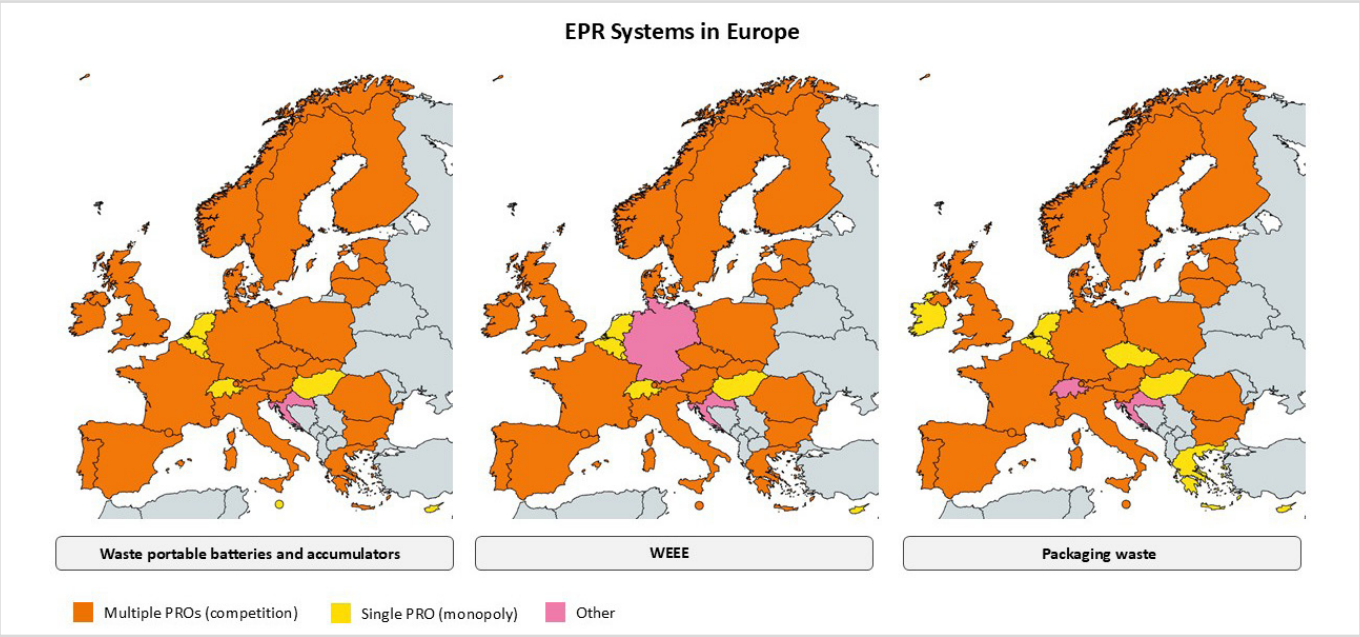

Figure 1 – EPR systems in Europe [4]

[1,2] Ellen MacArthur Foundation (2021) Extended Producer Responsibility – a necessary part of the solution to packaging waste and pollution
[3] See Figure 1 for the mapping of competitive vs monopolistic/other EPR systems across the EU.
[4] Own graphic based on Adelphi (2021) Analysis of Extended Producer Responsibility Schemes, as of November 2025

Why competition works in EPR systems

Competition drives down costs, encourages innovation, and improves service quality.

Globally, **competition** is recognized as **key to efficiency and consumer protection**. The European Commission notes that competition improves prices, quality and choice.[5] Competition within the EU helps make European companies stronger outside the EU too – and able to hold their own against global competitors. Australia's Competition and Consumer Commission (ACCC)[6] goes one step further to conclude that the benefits of competition ultimately **enhance the prosperity and welfare of citizens**.

Low prices for all

The simplest way for a company to gain a high market share is to offer a better price. In a competitive market, prices are pushed down. Not only is this good for consumers - when more people can afford to buy products, it encourages businessses to produce and boosts the economy in general.

Better quality

Competition also encourages businesses to improve the quality of goods and services they sell - to attract more customers and expand market share. Quality can mean various things: products that last longer or work better, better after-sales or technical support or friendlier and better service.

More choice

In a competitive market, businesses will try to make their products different from the rest. This results in greater choice - so consumers can select the product that offers the right balance between price and quality.

Innovation

To deliver this choice, and produce better products, businesses need to be innovative - in their product concepts, design, production techniques, services etc.

Figure 2 - The Benefits of Competition
Source: 'Why is competition policy important for consumers?', European Commission

The **PRO market is not an exception**. When Germany ended its packaging monopoly in 2003, compliance costs dropped, reducing fees for producers[7] (see Figure 3). Empirical studies confirm that "a more competitive market structure allows achieving the same collection outcomes at a lower cost".[8] Lower prices do not come at the cost of good service or performance, otherwise producers would take their business elsewhere. The very nature of the competitive model is its ultimate advocate: producers get a variety of partners to choose from, and when pricing is competitive, they can consider other business values that may be important to them. This encourages PROs to **innovate and invest, considering improved processes, technological advancement, and added value services.**

[5] Why is competition policy important for consumers? - European Commission
[6] Competition and why it matters | ACCC
[7] Sektoruntersuchung duale Systeme – Zwischenbilanz der Wettbewerbsöffnung, Bundeskartellamt (2012)
[8] Favot, Viet et al (2022) Regulation and competition in the extended producer responsibility models: Results in the WEEE sector in Europe, *Waste Management Journal*

Consequently, PROs in competitive markets cannot afford complacency, seeking efficiencies resulting in reduced fees for producers, and ultimately for consumers. They continually optimise, improve service quality, and develop new technologies. The result is a healthier industry and better environmental outcomes. This competitive environment ultimately benefits the entire industry and wider community through these investments and advancements. Underperforming PROs are weeded out of the market naturally. If efficient take-back systems are the aim, **legislation based on extended producer responsibility should not only enable competition between take-back organisations but encourage it.**[9]

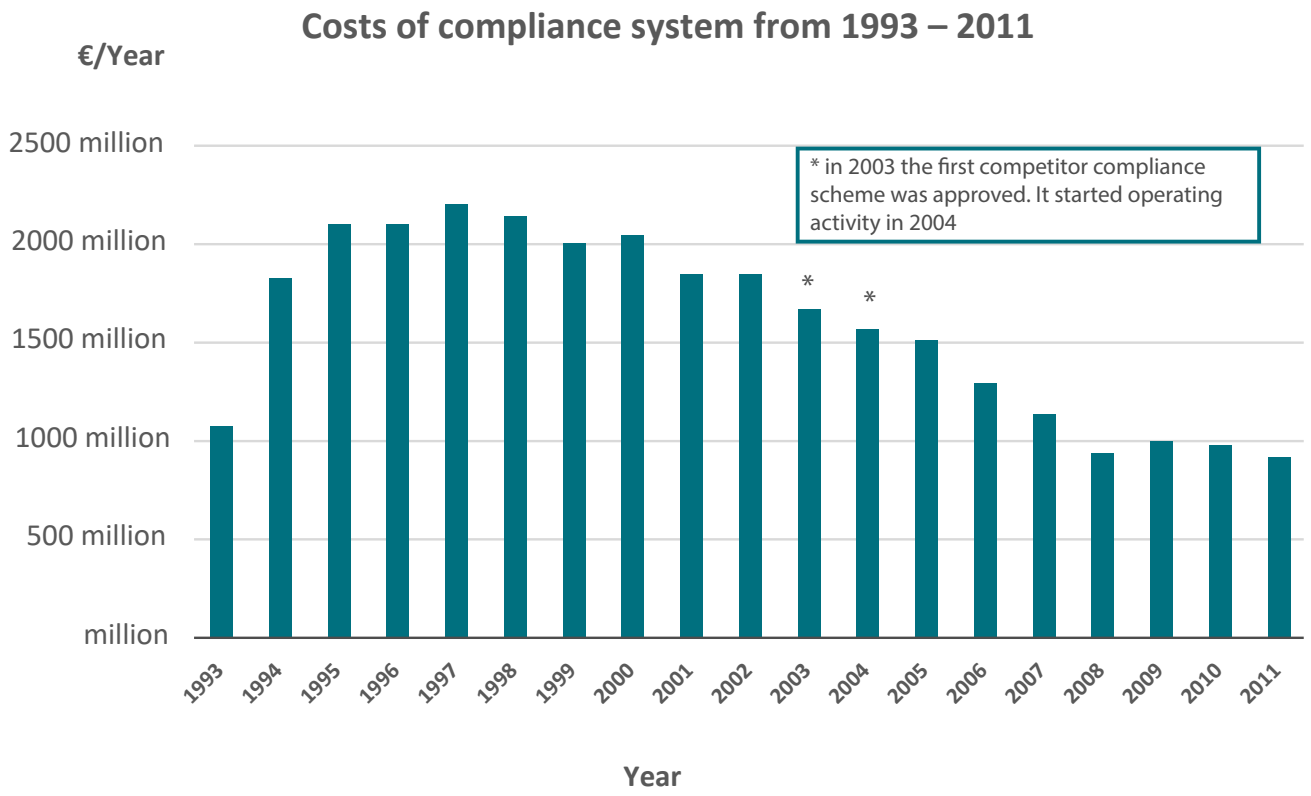

Figure 3 – Costs of compliance system in Germany from 1993 – 2011
Source: Valpak (2022) Competition in Producer Responsibility: Case Study of German Packaging Compliance Schemes

Reducing systemic risk via multiple PROs

Relying on a single PRO creates systemic risk. **States and producers should not depend on one player** to reach their national or EU set sustainability targets: a multiple PRO set-up creates a safety net, distributing risks of non-performance across several players. (The age-old idiom “don’t put all your eggs in one basket” comes to mind!).

Acting beyond a safety net, multiple PROs offer supervising authorities comparable benchmarks for performance levels; underperformance is more easily identified and less easily refuted. Further, multiple PROs give regulators leverage: authorities effectively have more **power to request corrective actions for repeated or severe failures** of a non-performing PRO, such as ultimately ending a PRO’s operating license. However, in single-PRO set-ups, the state greatly depends on that one organisation and corrective enforcement actions hold less weight. As a result, enforcement is weaker due to high dependency. France’s textile PRO monopoly, Refashion, is a cautionary tale: despite sitting on €200 million, it refused requests from the collector Le Relais to increase the collection reimbursements to meet actual costs.[10] This triggered a national crisis in textile collection, forcing the state to step in to subsidise the collection costs.

[9] Hieronymi (2025) Vergleich und Bewertung der Effizienz von Rücknahmeorganisationen für Elektro-Altgeräte in 32 Ländern mit dem Fokus auf Geräten der Informationstechnologie, Technical University of Dortmund, Fakultät Raumplanung
[10] The Le Relais collections are at a standstill, will your old clothes be saved from the trash by the State?

In single-PRO set-ups, it is relatively easy for the PRO to blame other economic actors for failure to reach targets, rather than looking inward to identify opportunities for improvement. A competitive PRO set-up, on the other hand, allows for different approaches between PROs, potentially resulting in varying performance levels, and ultimately encouraging internal reviews to seek efficiencies and better performance.

Protecting recycling ecosystems through PRO diversity

The recycling system in Europe is currently under strain, with cheap virgin plastic imports, low demand for recyclates, and rising costs. **Recyclers and other processors will arguably have a higher chance of survival in a competitive EPR system** with multiple PROs, compared to a monopolistic system: in a single PRO set-up, a recycler only has one possible upstream customer for an EPR related waste stream access in the country, i.e. the monopoly holder. Here, no contract with the PRO equals no business.

In this context, competitive models keep a **highly competitive and diverse recycling landscape alive**, since these actors compete for the most effective, innovative recycling solutions for PROs. They are not automatically restricted or ejected from the market if they don't reach a contract with one PRO, as there are also others present in the market. Competitive models also foster a dynamic, evolving market, where new players can emerge and established ones are pushed to improve.

Evolving role of PROs: Meeting modern producer needs

PROs are no longer just compliance providers. In competitive EPR set-ups, they are becoming strategic partners, helping producers access recycled materials and build circular supply chains. For example, Landbell Group partnered with MARS and chemical company SABIC to develop a new pyrolysis chemical recycling process that allows the used mixed plastic to be recycled at molecular level, to produce pyrolysis oil, that can be used like a fossil raw material to produce high-quality, food-grade packaging.[11] In monopoly systems, producers' risk being cut off from such innovations, either by design or disinterest. Competition, in contrast, aligns PROs with producer goals and sustainability strategies.

Access to ESG data and reduction of ESG impacts in the supply chain is becoming increasingly important for producers, due to legal requirements resulting from the Corporate Sustainability Reporting Directive (CSRD), the Corporate Sustainability Due Diligence Directive (CSDDD) and similar legislation in other jurisdictions, or driven by a choice to use private rating initiatives like EcoVadis. PROs, like any other supplier, are expected to deliver such data and to improve the ESG performance in their supply chain, to ultimately **improve the ESG performance** of the producer (e.g. PRO's carbon emission = producer's scope 3 carbon emission). A multiple PRO set-up promotes **competition for the most sustainable solutions and data availability** going beyond pure compliance with EPR obligations. This helps EU Member States reach their sustainability targets. A single-PRO will less likely be influenced by producers' desires for support or strategic partnerships on new topics as demonstrated above, meaning that producers lose out, with no alternative providers to turn to.

This new role of PROs in the competitive EPR landscape, especially with regard to secondary raw materials, makes competing PROs important players in helping the EU (and other jurisdictions worldwide) reach their circular economy targets, such as minimum recycled content targets.

[11] Close the loop with us - Landbell Group

Challenges of monopolies and state-controlled PROs

Why monopoly models fall short

There is no doubt that monopolistic economic structures are preferred over competition in certain situations. An obvious example are natural monopolies where economies of scale allow for efficient and cost-effective solutions, such as utility infrastructures. However, EPR does not have the hallmarks of a natural monopoly. Monopolies in EPR can lead to inflated costs due to lack of alternatives: a global PhD study reviewing efficiency of WEEE take-back models concluded that countries with only one take-back organisation had on average more than twice as costly take-back prices compared to countries with competing organisations.[12]

There are other concerns with the single-PRO set-up. They **lack the inbuilt incentive for improvement:** without competition, monopoly operators could quite easily stagnate. **Transparency and accountability** also suffer, with a higher risk of inefficiency and corruption, due to the lack of division of power or authority. Similarly, there is the risk of regulatory capture, as a PRO monopoly could **exert excessive influence over policy decisions.**

Moreover, monopolistic set-ups tend to lack supervision. The EU Waste Framework Directive requires independent national supervision where there is a competitive PRO set-up, while the same requirement is not present in single PRO set-ups despite calls from industry for this to be amended. As such, there are no established minimum operational requirements that a single PRO must adhere to, which can also lead to little or no enforcement actions on free riders and illegal parallel waste streams.

The only scenario where a single-PRO might be an appropriate set-up: monopoly as a temporary recourse for a country or jurisdiction that is introducing EPR. An OECD's report states that:

> "it might be more efficient initially to set-up a PRO as a monopoly if its establishment involves high sunk costs, and where there is also uncertainty about future costs and revenues… The operations of monopoly PROs should be kept under review and competition encouraged when the benefits of single PROs no longer outweigh their costs. Any restrictions on competition intended to support the introduction of the EPR (such as allowing a PRO exclusive rights to a market) should be phased out as soon as possible."[13]

The single PRO set-up should be limited until the system and infrastructure are more stable, so that the system can reap the benefits of a competitive EPR set-up. The state of Minnesota in the U.S. has taken this approach. The legislation establishes an exclusive operation period for the first approved PRO, which is expected to last around eight years. After this period, the 'PRO market' will open for competition, with other organisations able to apply for approval. A similar logic can be applied to jurisdictions with low populations or large remote areas.

[12] Hieronymi (2025) Vergleich und Bewertung der Effizienz von Rücknahmeorganisationen für Elektro-Altgeräte in 32 Ländern mit dem Fokus auf Geräten der Informationstechnologie, Technical University of Dortmund, Fakultät Raumplanung

[13] OECD (2016), Extended Producer Responsibility: Updated Guidance for Efficient Waste Management, OECD Publishing, Paris.

State-Run EPR: Misaligned incentives and lost transparency

The risks of state-governed EPR schemes are similar to those of monopolies, as many monopolies are state-governed. However, as not all EPR monopolies in operation are state-run, the following section considers the additional risks separately.

Firstly, as highlighted in a recently published joint industry statement[14], assigning producers' responsibilities to state-owned operators is a paradox. State-run PROs often fail to fulfil the producers' responsibilities to meet recycling targets on their behalf, which is the core function of a PRO.

Further, when EPR fees go into general budgets, such as in Croatia, **contributions are not necessarily dedicated to waste management and may be swept into a general state budget**, acting like a tax, and used for purposes other than reinvestment into waste management or to finance innovation into product circularity. This lack of transparency and diversion of funding negatively impacts and arguably **undermines the objectives and progress of EPR**, waste management, and circularity. Producers become mere 'taxpayers', with no influence over operations or strategy.

State-run PROs bear all the disadvantages of a monopoly set-up mentioned above, while dealing with additional conflicts of interest. Hungary shows the downside: fees are higher than necessary, and inefficiencies go unchecked due to lack of oversight.[15]

Debunking myths about competition

Monopolistic proponents within the EU often advance claims against competitive EPR models, arguing that multiple-PRO systems introduce inefficiencies or risks. These concerns have been echoed in recent publications, such as the position paper by Verpact, the Netherlands' single packaging PRO. The following section addresses these claims directly, providing counter-arguments grounded in data and practical experience.

Claim:

Competition in EPR creates a 'race to the bottom', where price becomes the sole determining factor for PRO selection, leading to compromised service quality as providers cut costs to remain competitive.

Rebuttal:

This narrative overlooks the broader dynamics of competition. In well-regulated markets, PROs do not win business by undercutting service, but instead compete by driving efficiencies, innovating processes, and delivering added value. **A genuine 'race to the bottom' is not an inherent feature of competition, but a failure of regulatory enforcement.** Strong, consistent oversight ensures that competitive pressure improves, rather than undermines, overall system performance.

In competitive markets, producers are empowered to choose based not only on price, but on quality, transparency, and service alignment with their sustainability objectives. Poor service is penalised naturally through loss of business. Furthermore, many PROs in competitive environments implement dedicated innovation strategies, allocating specific budgets or percentages of revenue to R&D. This is reinforced in several Member States through regulatory mechanisms, such as mandatory innovation spending (e.g. Ireland, Portugal).

To safeguard against unsustainable price competition, structural tools already exist in some markets: For example, the EU Waste Framework Directive sets out minimum performance requirements for PROs,[16] and Member States are encouraged to implement independent performance monitoring. This includes oversight of key metrics such as collection volumes, recycling rates, and environmental quality. These instruments ensure that cost efficiencies are not gained at the expense of environmental outcomes.[17]

[14] Joint Industry Statement on State-run Producer Responsibility Organisations, May 2025
[15] EUROPEN-EPR-Recommendations-January-2025.pdf
[16] 2008/98 - Waste Framework Directive, Art. 8a
[17] Hieronymi (2025) Vergleich und Bewertung der Effizienz von Rücknahmeorganisationen für Elektro-Altgeräte in 32 Ländern mit dem Fokus auf Geräten der Informationstechnologie, Technical University of Dortmund, Fakultät Raumplanung

Claim:
Single-PRO systems are inherently more efficient, achieving higher collection and recycling rates than competitive alternatives.

Rebuttal:
The empirical evidence does not support this assertion. In fact, multiple analyses suggest that system performance cannot be attributed solely to the number of operating PROs. A nuanced understanding of scheme design, enforcement, and broader waste management infrastructure is necessary to assess outcomes.

- A global academic study found no direct correlation between lower take-back costs and reduced collection rates in competitive systems.[18]
- Eurostat data demonstrates that while monopolistic packaging schemes in Belgium and the Netherlands do report high recycling rates, **six jurisdictions with multiple PROs also exceed 70%**, achieving comparable results.
- Conversely, **some monopoly battery PROs underperform**: in 2023, Cyprus and the Netherlands collected only 37% and 48% respectively, while twelve jurisdictions with competitive models achieved higher collection rates than the Netherlands.
- In the WEEE sector, the 2022 Eurostat data reveals low recycling rates across both single and multiple PRO systems, indicating that **other structural and operational factors play a more decisive role than market structure alone.**
- A recent PhD study analysing WEEE take-back systems (Global E-Waste Statistical Partnership, 2022) found that **countries with mature, competitive PRO markets achieved higher average collection rates (53.8%)** than those operating under single-PRO systems (46.7%).[19]

In short, **a monopoly model is not a prerequisite for success.** While some monopolistic PROs do perform well, their results are not uniquely attributable to the absence of competition. Jurisdictions with competing PROs have demonstrated that high performance, cost-effectiveness, and innovation can be achieved, and often exceeded, within a competitive framework.

[18] Favot (2022) Regulation and competition in the extended producer responsibility models: Results in the WEEE sector in Europe
[19] Hieronymi (2025) Vergleich und Bewertung der Effizienz von Rücknahmeorganisationen für Elektro-Altgeräte in 32 Ländern mit dem Fokus auf Geräten der Informationstechnologie, Technical University of Dortmund, Fakultät Raumplanung

The following concerns are sometimes raised in connection with competitive EPR models. However, these risks are not intrinsic to competition itself. Rather, they reflect weaknesses in system design, lack of harmonisation or inadequate enforcement. Each can be effectively mitigated through thoughtful regulatory frameworks and oversight mechanisms:

Claim:
Competitive models make it more difficult to apply differentiated EPR fees (eco-modulation).

Rebuttal:
When supported by clear and enforceable fee structures, eco-modulation functions effectively in both competitive and monopoly systems. The key enabler is regulatory harmonisation, as demonstrated in the EU's approach under the Packaging and Packaging Waste Regulation (PPWR). We strongly support extending this model across all EPR-regulated waste streams and jurisdictions, ensuring consistent application of eco-modulated fees regardless of market structure.

Claim:
Competition favours large producers or importers, placing smaller players at a disadvantage.

Rebuttal:
With proper regulatory design, **competition and fairness are not mutually exclusive.** Targeted provisions, such as simplified reporting, de minimis thresholds, or shared PRO services, can ensure SMEs are protected and included. One example where this concern is already addressed is in the EU: the Waste Framework Directive (WFD) (Article 8a) prohibits unfair treatment of smaller producers, a principle further reinforced by the PPWR.

Claim:
Multiple PROs increase the risk of free-riding and complicate market oversight.

Rebuttal:
Free-riding is an enforcement issue, not a feature of market competition. Free-riding in a competitive model can be overcome by implementing national enforcement bodies (see policy recommendations below for further details).

Claim:
Competitive PROs are less likely to invest in public education or long-term awareness campaigns.

Rebuttal:
While this may have been a valid criticism in earlier stages of EPR implementation, it no longer holds. The obligation for PROs and/or producers to engage in public communication is now embedded in various EPR legislation around the globe. Competitive PROs are fully capable of collaborative action in this domain. Germany provides a compelling example: under its 2019 Packaging Act, all PROs jointly fund and deliver a national education campaign ('Mülltrennung wirkt!'[20]), with contributions proportional to their market share.

While certain operational weaknesses have been observed in competitive EPR systems, they are more accurately attributed to **deficiencies in system design or inconsistent enforcement**, rather than to competition itself. As illustrated above, these risks can be addressed through targeted regulation, harmonisation across jurisdictions, and robust monitoring frameworks.

[20] Mülltrennung wirkt! Eine Initiative der dualen Systeme

A note on profits

A related discussion concerns whether PROs should operate on a profit or not-for-profit basis. The main criticism of for-profit PROs is that they may be incentivised to 'cherry-pick', that is, focussing collection of the waste fractions with the highest market value while ignoring less profitable materials, or remote areas where collection costs outweigh the material value. In practice, however, this risk can be effectively managed through regulation. For instance, the EU prohibits cherry-picking under Article 8a of the WFD. An example of how this has been translated in practice is the establishment of coordination centres or other allocation systems, that assign waste volumes, geographical areas, or specific pickup points to PROs according to their market share, removing any possibility of cherry picking. Moreover, competition among for-profit PROs can serve to prevent market dominance and naturally curb excessive profits, as well as the other benefits of competition mentioned above. By contrast, not-for-profit PROs, while less exposed to commercial bias, often face weaker incentives for operational efficiency and cost control, leading to higher administrative expenses and slower innovation. Any financial surpluses may also be retained as reserves rather than reinvested or passed on as fee reductions, limiting overall system efficiency.

The next section sets out specific policy recommendations to strengthen the competitive EPR model and ensure it delivers on its full potential. Unlike monopoly systems, which carry structural risks that are difficult to correct, competitive models offer flexibility, accountability, and continuous improvement, provided the right safeguards are in place.

Policy recommendations to strengthen competitive EPR systems

1 Strengthen the competitive PRO landscape

- Encourage competition in the PRO market as an inbuilt benchmark.
- Prohibit state-run PROs and rule out the possibility for exemptions from the minimum requirements for PROs.
- Avoid dictating governance or banning profit. Focus on outcomes, cost-effectiveness, and independent monitoring.

2 Ensure eco-modulation works in a competitive market

- Harmonise eco-modulation criteria nationally, or in the case of the EU, across Member States.
- Base enforcement on actual product characteristics, not future claims.
- Fully finance PROs via base fees, avoid complex bonus systems and use the lower base fee to incentivise producers.
- Establish a dedicated, independently managed national fund promoting circular economy initiatives that is financed by the higher fee, that is, all PRO revenues generated from fees higher than the base fee.
- Allow national flexibility in defining fee modulation levels.

3 Enforce compliance and fair market oversight

- Every jurisdiction should have an independent body to monitor EPR compliance, such as that defined in the EU WFD, irrespective of the number of PROs in that jurisdiction.
- Empower this body to flag non-compliance to enforcement authorities.
- Implement public producer registers to identify free-riders.
- Establish adequate waste allocation mechanisms coordinated by national bodies (often called clearing house or coordination centre).

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About Landbell Group
Landbell Group is the leading supplier of service and consulting for global environmental and chemical compliance. It offers take-back/collection schemes for various waste flows, comprehensive services and consulting as well as respective software solutions from a single source. Established as a packaging scheme in Germany in the year of 1995 Landbell Group operates 35 take-back/collection schemes worldwide and, up to now, has managed the collection of more than 3.5 million tons of waste electrical and electronic equipment, more than 7.0 million tons of packaging and more than 65,000 tons of used batteries towards environmental recycling. For more information on Landbell Group, please visit **www.landbell-group.com.**