

EPR Needs CPR

How to Fix Extended Producer Responsibility A Circular Workplace White Paper



Executive Summary

Why we need to make this work

Extended Producer Responsibility is the worst possible way to reduce waste, except for all the others. We're paraphrasing Winston Churchill here to stress that despite all the problems we unpack on these pages – a dog's breakfast of regulations, murky administration, dismal results, no incentives to reduce waste from the start – we believe that EPRs can and must work. We live on a finite planet and we have the ability to design out waste. But we need to take a clear-eyed look at what the goals of these programs really are, what's not working, and how we can fix it. If Extended Producer Responsibility were a person, they would need immediate intervention to keep them alive. They would need cardio-pulmonary resuscitation, as our title suggests, and what follows are our strategies to bring EPRs back to life.

Who we are and why we wrote this

This paper is published by Green Standards, the global office decommissioning company. We're a Certified B Corporation dedicated to eliminating workplace waste. As an organization that has been keeping office furniture, fixtures, and equipment in use and out of landfill since 2009, we have firsthand experience with circular economy solutions that produce results as well as in-house expertise on EPR programs.

In this white paper, we aim to provide a clear-eyed overview of what's preventing Extended Producer Responsibility systems from living up to their promise. We examine the challenges of current EPR frameworks via industry observations, expert opinions, and available third-party analyses. We then explore how EPR policies can be improved, offering recommendations for policymakers, businesses, and industry stakeholders. While EPR systems are a foundation of good waste management policy, we believe that business-led solutions like Green Standards can play an equally important and complementary role in driving sustainable outcomes. And ultimately, it's all about outcomes: Do EPRs eliminate waste? If not, how can we fix them so they do?



If Extended Producer Responsibility were a person, they would need immediate intervention to keep them alive.

Introduction

The promise of Extended Producer Responsibility meets reality

The 1990s gave us text messages, cargo pants, Google, the Palm Pilot, Seinfeld, and the very first Extended Producer Responsibility laws. Some of these things have aged better than others.

When EPR laws for packaging were <u>first introduced in Sweden in 1992</u>, they were heralded as a major step toward a circular economy. Also known by the slightly less intimidating name "product stewardship," these policies shift the responsibility and cost of end-of-life product management from overburdened municipalities, recyclers, and other service providers to manufacturers, brand owners, licensees, importers, distributors, and retailers. The concept was simple: Make the polluter pay. By holding producers accountable for the disposal of their products, EPR aims to incentivize sustainable design while alleviating strain on public waste management systems.

That was the idea, and it remains a good one. But while EPR laws have the potential to redirect funding toward recapture and recovery, they often fail to achieve their goals. Despite significant investments made by manufacturers, these systems do little to encourage consumers to recycle. Worse, it's often unclear whether the funds collected up front actually reach end-of-life service providers. This is a particularly pressing issue because new EPR programs tend to use existing policies as a template. Many U.S. EPR policies are based on those already implemented in the EU, each adding a layer of nuance and complexity. That's why it's crucial to address the fundamental flaws before simply adopting them wholesale.

Let's be clear: The promise of Extended Producer Responsibility is our best hope to manage finite resources in a market economy. We need to close the gap between theory and practice, keeping more products in use for longer periods of time. This whitepaper examines the shortcomings of current EPR frameworks and presents three actionable strategies for improving these systems. Yes, EPR needs CPR, but the patient is alive and, with the proper interventions, can thrive.



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What's an EPR supposed to do?

EPR policies originated in a 1990 academic report by Swedish academic Thomas Lindquist as an interpretation of the "polluter pays" principle. These laws shift financial and operational responsibility for waste management from municipalities to producers. The goals of EPR include:

Funding waste management: Producers pay fees to support collection, recycling, and disposal systems with the hopes of improving resource capture and funding innovative technologies for better sorting and material separation for recovery and reuse.

Reducing public costs: Local communities bear the burden of these recycling costs in most regions, and EPRs should help alleviate the financial burden of waste management from these governments.

Encouraging sustainable design: Financial incentives aim to reduce waste and improve product recyclability through incentivizing better design practices.

How EPRs work — and eight reasons why they don't

Around the world, Extended Producer Responsibility programs are used to manage everything from packaging to textiles to batteries to mattresses to furniture. More than 35 U.S. states, nine Canadian provinces, and 27 countries in the European Union have some form of EPR, each with their own set of rules, schemes, fee structure and reporting mechanisms. EPRs are everything everywhere all at once.

Even within the same product category, there are different processes, fees, reporting structures, reporting agencies, and timelines. In the United Kingdom, for example, packaging <u>must meet minimum recycled content requirements or producers pay a modulation fee</u>. In Hungary, <u>similar fees are embedded directly into the tax system</u>, which adds additional complexity and lack of transparency. And the most far-reaching EPR programs, like <u>with electronics in Germany</u>, include take-back responsibilities, wherein the manufacturer has to supply or subsidize collection services, including transportation fees, in addition to the fees paid for the materials placed on the market.

The one thing all EPRs have in common is that they're all different, making compliance a resource-intensive task. Therein lies the first problem: **Without harmonized regulations**, every EPR regulatory scheme is unique in its own frustratingly unique way.



The one thing all EPRs have in common is that they're all different. That's where Producer Responsibility Organizations (PROs) or stewardship organizations (SOs) come in. These non-profit organizations handle registrations, data collection, and fee structures. Producers must register with the appropriate PRO or SO, report products or materials placed on the market, and obtain a registration number. But because there are so many different EPR regimes, there are many different PROs – and in some cases, competing PROs in specific industries and countries. Thus the second problem: An overwhelming number of Producer Responsibility Organizations, many with overlapping jurisdictions and mandates. Happily, there is some evidence of consolidation and alignment of PROs in the U.S., such with paper and packaging under the <u>Circular Action Alliance</u> currently operating in six states and mattresses under <u>the Mattress Recycling Council</u> in four states.

How well do these PROs work? Evaluating the effectiveness of EPRs requires metrics, which leads to the third problem: **Unreliable data collection**. Most EPR programs require producers to disclose material volumes placed on each market, which influences fee structures and recovery rates — and this is where accuracy in data becomes an issue. In the case of packaging EPRs, many producers do not weigh individual packaging components, instead relying on shipping weights that include both the product and its packaging. This reliance on estimates complicates efforts to set and measure a baseline to assess the total amount of packaging placed on the market each year and compare it to recovery rates for similar materials. The data collected is often inaccurate, limiting the reliability of these assessments. And because costs and fees are associated with these weights, producers are financially incentivized to underestimate volumes.

Which brings us to the most important question in every sustainability conversation: Who actually pays? Who is responsible for the environmental and economic impact of all the things we are making, selling, buying, using, and discarding? The noble intent of EPRs is to pass the costs of end-of-life recovery to the producers, prompting a rethink of how and why they make their products. Of course, these costs can and do get passed off to the consumer. This is the fourth problem, and perhaps the most existential: **The polluter who pays is the consumer, and the producer effectively manages to offload their responsibility.** This workaround meets the letter of the law but not the spirit, as money is collected for recycling but there is no incentive to improve the system.

Once the consumer pays an EPR fee, where does that money go?

This is where it gets murky, leading to the fifth and most worrisome issue: A lack of financial transparency. PROs are intended to allocate funds toward recycling efforts. However, a portion of their budgets goes to administrative overhead, lobbying, public relations, and consultant reports. Independent audits of these organizations are uncommon, and occasional media investigations raise concerns about their operations.

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The polluter who pays is the consumer, and the producer effectively manages to offload their responsibility. In 2022 Politico reported that the industry-run U.S. non-profit that coordinates carpet recycling was <u>actively trying to prevent its own expansion</u>. Even more concerning, a <u>2024 report on the global plastic waste trade by the Environmental Investigation</u> <u>Agency (EIA)</u> concluded that "the UK's EPR scheme for plastic packaging is a breeding ground for fraud, where criminals siphon off an estimated £50 million annually." The report also highlights inflated collection targets and a lack of transparency in actual recovery rates. There is a <u>general lack of traceability</u> of how the funds collected are used to support the recovery and recycling of materials, and there are no requirements to mandate this level of transparency. With state-owned systems, this transparency issue only becomes more complex.

While these are specific examples, the overall opacity and complexity of EPR schemes create an environment ripe for misuse. This makes them easy targets for those who oppose the whole concept of reducing waste. Compounding the issue, these programs often fund nonprofits to produce reports showcasing their success. They essentially validate their own effectiveness, like the fox guarding the hen house.

But let's focus on the programs with reliable reporting and oversight. There we find the sixth problem: **Even with good intentions and audited data, the results can be under-whelming**. France has had a packaging EPR in place since 2012, but despite this they have consistently missed collection targets, achieving <u>only 23% recovery against a</u> <u>40% goal</u>. Recycling and reuse rates have stagnated since 2016, and 40% of EPR-regulated waste went uncollected in 2022. Despite being an early adopter with extensive data, France's experience highlights the systemic ineffectiveness of many EPR schemes. Regions implementing EPRs must address these shortcomings to design more effective systems.

Beyond funding inefficiencies and unmet recovery rates, a harsh reality persists as problem seven: many materials are inherently non-recoverable or non-reusable. If EPRs often overlook this fact, it's no accident. Disinformation campaigns from the plastics industry have obscured the reality that most post-consumer plastics are not recyclable in their current form. According to the 2024 State of Recycling report from the U.S. Recycling Partnership, only 21% of recyclable materials are being recycled at the resi-dential level, so there are also capture and recovery issues inherent to our post-consumer recycling process. The end user is not well-incentivized to recycle. Despite the global plastics industry generating over \$700 billion in value as of 2023, minimal investment has been made in cost-intensive practices like sorting and separating plastic polymers or advancing recycling innovations. Producers continue designing products that cannot be easily recovered or recycled at the end of their lifecycle.



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Finally, consider the most ambitious goal of EPRs: To incentivize sustainable design. The eighth major problem: They don't.

Currently, there is little communication between producers and end-of-life processors about the challenges of handling mixed materials or implementing simple design changes to improve end-of-life outcomes. In a linear economy, these two players are on the opposite side of one another and rarely communicate. But if EPRs are to catalyze circularity, they need to loop in product designers.

Of course, the incentives need to align. A 2015 review of mattress EPRs in the United <u>States</u> clearly identified this problem: Flat-rate recycling fees and collective producer responsibility simply "do not foster product re-design for improved end-of-life management." Without clear feedback loops from the marketplace – what's called ecomodulation – producers lack any signal or incentive to reduce waste.

And here we can go back to Thomas Lindquist. When the producer of Extended Producer Responsibility was asked in 2023 if his idea had accomplished what he'd hoped, he offered a blunt no.

"EPR meets this need of collecting waste and putting it into recycling," <u>Lindquist told</u> <u>Packaging Insights</u>. "But if we look at that and say, okay, what is recycling? We see today that a lot of the waste is downgraded – it's landfilled into products. It doesn't help and it doesn't replace the raw materials."

Identifying these persistent problems with Extended Producer Responsibility programs is the first step toward solving them. Greater alignment with key frameworks, such as the EU Ecodesign for Sustainable Products Regulation (ESPR), could drive more sustainable practices by requiring producers to improve product life cycles and providing guidance on materials that are difficult to recover or recycle.

When EPR programs do work, they produce impressive results. In Japan, mandatory recycling requirements for household appliances boosted recycling rates to 92% by 2022. While this could be seen more as outright regulation than a traditional EPR, it demonstrates the effectiveness of direct mandates. Denmark has also made progress by establishing <u>direct reimbursement contracts between producers and municipal waste handlers</u>, reducing intermediaries and potential for fraud. Similarly, <u>Belgium relies on two long-established non-profit PROs</u> to manage obligations and fee payments, providing harmonization and transparency for producers and achieving the highest packaging recycling rate in Europe. These examples highlight opportunities for EPR systems to evolve and deliver better outcomes.

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A Green Standards Case Study

Closing the loop with manufacturers



At Green Standards, we demonstrate how effective communication between end-of-life service providers and manufacturers can drive circularity. As specialists in managing office interiors that have reached their end of life, we find the best next use for office assets through resale, donation, reuse or recycling. This hands-on experience provides us with valuable insights that we share directly with office furniture manufacturers (or anyone who will listen!) to help them improve their product designs. We've cultivated relationships with high-value furniture brands and actively engage their design and engineering teams to address challenges we encounter at the end of a product's life. These discussions often highlight issues such as the recyclability of combined polymers, difficulties with disassembling wood furniture, and design flaws that hinder resale. Many design teams are surprised to learn about these obstacles — such as the fact that fabric glued to foam on task chairs is unrecoverable or non-recyclable, or that furniture designed to last 30 years often ends up in landfills after only five years due to shorter lease terms, office refresh cycles, or a facility manager not knowing there is a better way.

By sharing this information, we provide actionable insights that help manufacturers create more circular products, enabling greater resale and recovery at the end of life. It's not limited to how to make products more recyclable; we also help share insights into the resale markets and what they can do to ensure higher resale value or how to make their products more donatable to local charities. After all, a circular economy is about keeping products at their highest value for longer, which means designing first for reuse then recyclability. These design choices make their products more valuable to their clients, as it can provide rebate potential instead of disposal costs during decommissioning, or at the very least benefit their local communities. We highlight the tangible financial benefits through new business models or opportunities for more revenue generation from the different design choices that could be made.

Collaboration like this is crucial for overcoming the production and design barriers that hinder circularity in any industry. While it's not rocket science, there is often a gap in understanding of what is truly happening to products at their end of use. Closing the loop on this feedback is an actionable and cost-effective first step towards real change. EPR schemes have the potential to boost these relationships between partners — one responsible for the product's creation and the other for its end-of-use management. The two should become closer in a circular economy, closing the loop on products and materials and designing out waste.



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So why does EPR need CPR?

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The programs are fragmented and inconsistent.

EPR laws vary significantly by jurisdiction, creating a patchwork of regulations. In the EU, differing national rules complicate compliance and diminish efficacy. In the U.S., state-level laws exacerbate this inconsistency as they each have their own set of rules.



The incentives aren't there.

While EPR fees are designed to fund recycling and recovery, funds often fail to reach end-of-life service providers or recovery efforts.

Even when the recovery is generally successful, it's very rare that the producer has any incentive or even actionable intelligence to adjust design practices.

Consumers are not incentivized in the current system. Even with more educational materials paid for by EPR funding, they still have little incentive to keep products in use or recycle.

3 They cover a fraction of what's on the market.

Many modern materials remain non-recyclable or difficult to process economically. Products designed without reuse or recyclability in mind continue to dominate the market, undermining EPR's objectives.

They're a headache to follow.

The patchwork system of the EPR landscape poses real threats to the success of EPRs globally. Producers face significant challenges in tracking and reporting appropriately due to the varying complexity and nuances of each EPR requirement.



And they don't hit their targets.

Despite ambitious goals, countries like France have consistently missed recycling and collection targets, despite having the world's longest-running EPR program. In 2023, the European Environment Agency reported declines in recycling rates for packaging and electronic waste across the EU. This is proof that existing EPRs are not working to address their intended purpose, and more work needs to be done to achieve recovery targets.

How do we administer EPR CPR?

Extended Producer Responsibility programs should be a huge part of the circular economy. EPRs should fund the rethink of broken recycling systems and make everything they touch more circular and less wasteful. In their current form, they do nothing of the sort. Addressing the inefficiencies outlined in this white paper could make them far more effective. Transparent allocation of funds to directly offset recycling or end-of-life service costs would ensure these programs deliver meaningful results. A more coordinated, harmonized global approach — leveraging lessons from existing EPRs — could eliminate administrative burdens, streamline compliance, and enhance material recovery. And if we build a more transparent and accountable system, the theoretical design improvements might actually happen.

Improve Funding & Data Transparency

ACTION: Create transparent mechanisms to allocate EPR fees directly to end-of-life service providers and municipal waste systems. These funds should offset cost-prohibitive sorting and recycling practices while driving innovation in recovery technologies, reducing the burden on local municipalities and communities. Require transparent disclosure on how fees are allocated and make data on collection and recovery easily available. And audit everything!

IMPACT: Improved funding and transparency will bolster recycling rates, enhance infrastructure, and ensure accountability, with tangible benefits for producers and waste management systems.

2 Harmonize Frameworks

ACTION: Establish standardized EPR regulations at the national or regional level to ensure consistency in rules, fees, and reporting requirements. Where harmonization isn't feasible, align and learn from existing frameworks to minimize complexity and continuously improve.

IMPACT: Simplified compliance will reduce administrative burdens for producers, enable more participation, transparent & efficient material recovery, and foster international collaboration.

B Incentivize Circular Design

ACTION: Introduce stricter eco-design regulations, such as the EU's <u>Ecodesign for Sustainable</u> <u>Products Regulation</u> (ESPR), to mandate material reuse and/or recyclability. Ensure fees are broken down by producer and by product. Consider outright bans on mixed materials, limiting polymer combinations that cannot be mechanically separated, and minimum recycled content thresholds. Encourage and incentivize communications with end-of-use service providers and product designers.

IMPACT: Products will better align with waste management systems, reducing non-recyclable goods and accelerating the transition to a circular economy by creating more end markets, making reuse and recovery more economical.

Conclusion

If you've read this far, there's hope

To call current Extended Producer Responsibility programs circular is like calling a square circular. But by looking at what doesn't work and implementing better policy, we can round those corners. By addressing fragmentation, misaligned incentives, and transparency issues, EPR systems can be transformed into effective tools for material recovery and reuse.

While EPR is a key policy tool for improving waste outcomes, its success depends on a broader system of shared responsibility. Effective recycling and reuse require not only producer action but also consumer participation, supportive policy frameworks, and wellfunctioning collection and processing infrastructure. Without addressing these interconnected factors, even the best-designed EPR programs may fall short of their goals.

A key element of successful EPR systems is fostering communication between producers and end-of-life service providers. Establishing mechanisms for discovery and feedback loops can connect design challenges with real-world recovery limitations. Producers can address circularity challenges in their product designs by integrating insights from end-of-life providers, ensuring EPR systems achieve their full potential.

With these reforms, Extended Producer Responsibility programs can live up to their potential as robust tools to tackle waste challenges, foster circularity, and improve global recycling outcomes. That would in turn reduce resource extraction, accelerate innovation, and help us live within our means as a species. But to get to that bright tomorrow, we need to fix today's broken Extended Producer Responsibility programs. We need to admit that EPR needs CPR. G

By looking at what doesn't work and implementing better policy, we can round those corners.

About the Author

Heidi Frasure is a passionate sustainability leader with over 17 years of experience transforming environmental challenges into meaningful solutions. She began her career remediating nuclear waste and responding to one of the largest onshore oil spills in U.S. history, gaining firsthand insight into the importance of responsible resource management practices.

Now serving as Head of Sustainability at Green Standards, Heidi applies this expertise to advancing circular economy solutions in the workplace. She focuses on extending the lifecycle of office assets through reuse and community donation. Previously, she spent seven years managing Extended Producer Responsibility compliance for a global office furniture manufacturer, overseeing registration, reporting, and regulatory adherence across more than 20 regions for packaging and electronics. This experience highlighted critical gaps in EPR implementation, shaping her approach to driving more effective sustainability strategies.

About the Editor

Benjamin Errett is the author of three non-fiction books, a weekly columnist in the Toronto Star, and publisher of a weekly Substack newsletter. As Head of Marketing at Green Standards, he co-founded Circular Workplace, a global coalition to raise awareness of the zero-waste office. In partnership with major corporations and circularity advocates across four continents, he works to distill the simple and powerful benefits of the circular economy into accessible and actionable content.

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Frasure, H. (2025). EPR Needs CPR: A Circular Workplace White Paper. Toronto.

Key References & Further Reading

EPR in the EU

EPR Laws in the US

European Environment Agency Reports

Earth.org's Analysis of EPR Policies

Connexion France's Recycling Targets Report

Recycling Partnership, The State of Recycling in the US 2024

Belgium Reference for PRO groups

Illustrations by Paige Stampatori



V 1.0 • March 31, 2025