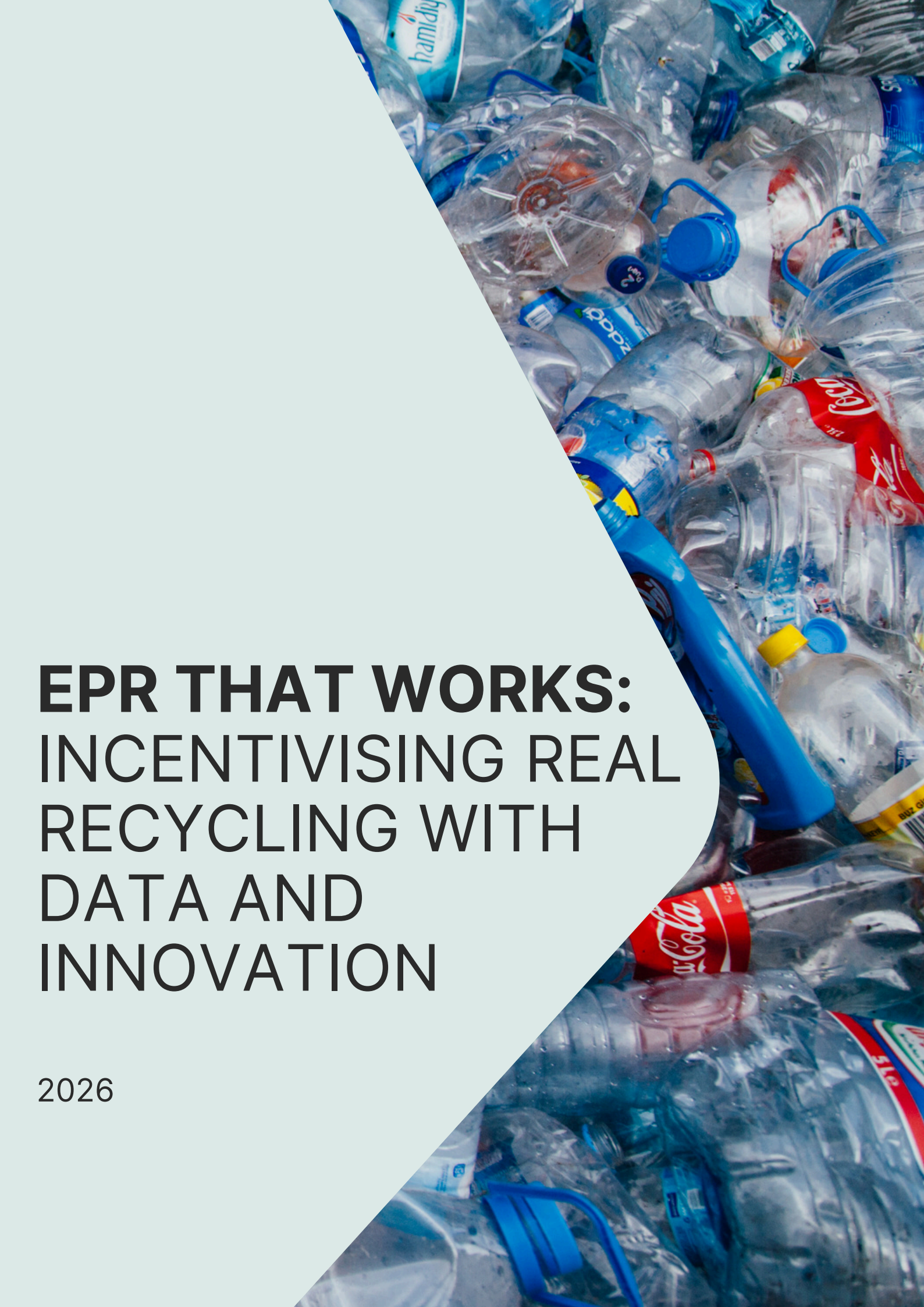




EPR THAT WORKS: INCENTIVISING REAL RECYCLING WITH DATA AND INNOVATION

2026

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EXECUTIVE SUMMARY

Extended Producer Responsibility (EPR) is established in the UK, marking a significant shift in how packaging waste is funded and managed. Phase one began in 2025 and required producers to pay flat fees based on 2024 data, with the first invoices issued in October 2025. This phase was designed to establish baseline reporting and funding flows while data collection continued through 2025. Subsequent phases introduce fee modulation from 2026 onwards, using improved data to better reflect environmental performance.

With modulation positioned as the next structural evolution of EPR, governments have a timely opportunity to shape how future fees reflect real-world environmental performance. Thanks to advances in digital detection, traceability, AI-enabled sorting and real-time reporting, it is now possible to link producer responsibility to measurable recycling outcomes.

A “Green Plus” option would sit alongside the modulation framework by rewarding producers who demonstrate proven improvements in recyclability, recovery, transparency and circular design. Many organisations are already implementing these innovations successfully. Recognising verified performance would accelerate adoption, encourage continuous improvement and support stronger environmental outcomes.



THE OPPORTUNITY

Today, two brands can place the same volume of packaging on the market and pay similar EPR fees, even if one is actively driving recycling, and the other is not.

Example:

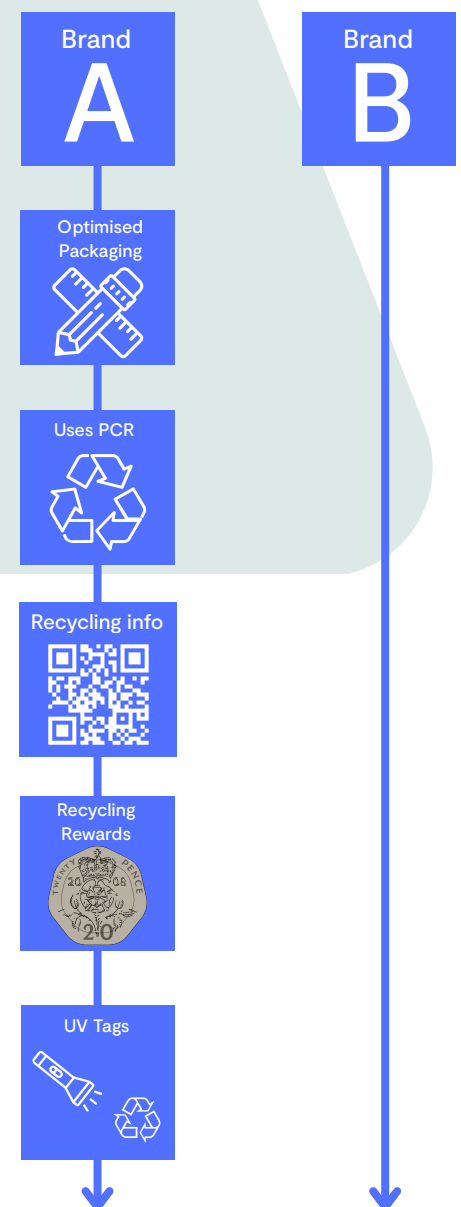
Brand A and Brand B each place millions of tonnes of packaging on the market. Both pay similar EPR fees.

But only Brand A:

- o Designs packaging to maximise recyclability.
- o Educates consumers via QR codes on-pack.
- o Rewards customers for recycling via app integration.
- o Uses UV tags to track recycling rates.

Brand B, by contrast, does not engage consumers or measure outcomes. Yet both are treated the same under EPR.

With the introduction of fee modulation from 2026 onwards, the system has an opportunity to evolve further.



UNLOCKING POTENTIAL

As EPR continues to mature, new data capabilities make it possible to differentiate performance more precisely and fairly.

Introducing outcome-based signals into modulation would help strengthen confidence in the system, encourage continued investment in innovation, and support national environmental ambitions.

By ensuring that future fees reflect real-world outcomes rather than assumptions, EPR can continue to build trust, attract investment, and help deliver the environmental performance the UK is aiming for.

THE SOLUTION: SUPPORT INNOVATION



Getting more granular

Plastics are not equal in recycling terms. As EPR evolves, increased granularity by polymer and format could help ensure fees better reflect real UK recycling outcomes, supporting fairer and more informed material choices over time.



Recent technological advances mean real outcomes can now be measured reliably at scale:

Digital tracking and detection

Real-time identification of materials, polymers, formats and even individual item characteristics inside MRFs.

AI and optical sorting

Improved purity, reduced contamination, and stronger closed-loop opportunities.

Advanced reporting platforms

Linking data from producers, recycling facilities and compliance schemes into auditable, government-aligned structures.

Consumer engagement tools

On-pack guidance, QR codes, smart incentives and verified behaviour data that help support collection and recycling.

Together, these innovations create the evidence base needed for an outcome-informed modulation framework that recognises demonstrable performance.

While packaging supply chains are often global in nature, the focus of these innovations is on improving transparency and performance at the end of life within the UK system, complementing existing international sourcing and assurance mechanisms.

EASE OF ADOPTION

One of the strengths of these technologies is their ease of deployment:

Across the sector, new technologies are designed for rapid deployment and integration:

- Retrofittable detection and sorting units for MRFs.
- AI-driven analytics integrated with existing reporting systems.
- Invisible UV Tag marking, compatible with GS1 and open global standards.
- Modular data platforms, connected directly with producer reporting requirements.

These systems can be installed and operational in hours, providing usable data from day one, and quickly deployed across supply chains. The progress achieved by early adopters shows that widespread implementation is both feasible and impactful.

PROOF OF IMPACT

Early industry pilots demonstrate the potential:

- Multiple MRFs across the UK have already deployed smart detection and AI systems, generating millions of verified recycling data points.
- Packaging redesigns incorporating high-PCR materials and digital identifiers are achieving measurable recovery improvements.
- Independent trials confirm that item-level data can achieve near 100% detection accuracy under operational conditions.
- Partnerships across compliance schemes, brands, and local authorities show strong public and commercial appetite for transparent, verifiable recycling data.

"We are at a pivotal moment for EPR. Innovation and data give us the chance to connect design, behaviour and real recycling outcomes in a way that simply wasn't possible before. If we seize that opportunity, we can create a system that moves beyond assumptions and build an EPR framework that works for producers, policymakers and society as a whole."



Will Ghali, CEO of Ecosurety



Read about [Polytag's collaboration with Citeo](#), where independent tests verified 100% detection accuracy.

WHY ENVIRONMENTAL POLICYMAKERS SHOULD CARE

With fee modulation introduced from 2026 onwards, policymakers have an opportunity to design a system that:

Rewards real outcomes: Reliable data allows modulation to reflect what is actually recycled, not just what is likely to be.

Improves transparency: Data-rich infrastructure offers clear insight across the packaging lifecycle.

Supports scalable innovation: Technologies already being deployed in the UK can be expanded across the country and Europe.

Strengthens public confidence: A system grounded in evidence builds trust and aligns producer behaviour with national climate goals.

This is the moment to ensure the UK's modulation framework evolves in line with emerging technological capability.



"As EPR evolves, there is an opportunity to go beyond minimum compliance and actively recognise brands that invest in measurable circular solutions. A 'Green Plus' framework ensures that innovation, transparency and real-world recycling outcomes are recognised and incentivised, creating a system where doing the right thing also makes business sense."

Steve Gough, CEO of Valpak



THE “GREEN PLUS” BENEFIT: A NATURAL EVOLUTION

Emerging innovations are reshaping what’s possible across the packaging value chain. These advancements go beyond improving recyclability; they are enabling a future where design, recovery and reporting are connected through trusted, real-time data.

- **AI-powered insights** are helping predict and optimise recycling flows across facilities.
- **Advanced plastic sorting** can now differentiate materials by polymer type, food-grade status and even brand ownership, improving closed-loop potential.
- **Refill and reuse tracking** technologies are verifying real-world performance, capturing return rates, cycles of use and environmental impact across pilot and commercial schemes.
- **Lifecycle impact reporting** links verified end-of-life recycling data to carbon accounting, environmental reporting and ESG disclosures.

Together, these innovations form the foundation for circular economy intelligence, linking packaging design with verified end-of-life recovery and transparent, data-driven reporting.

“Access to reliable, real-world data helps retailers understand which packaging models deliver genuine environmental benefit. That evidence supports confident decision-making, whether improving recycling performance or exploring reuse and return models at scale.”

Laura Fernandez,
Senior Packaging and
Sustainability Manager,
Ocado Retail



WHY THIS MATTERS: INCENTIVES DRIVE BEHAVIOUR

Clear signals within policy frameworks play an important role in encouraging investment, accelerating innovation and supporting consistent improvement across the sector. As EPR progresses, well-designed incentives can help scale the behaviours and technologies that deliver stronger environmental outcomes.

A "Green Plus" framework could deliver:

- Reduced EPR fees or tax relief for proven circular innovations.
- Recognition schemes for verified recovery evidence.
- Data-driven modulation that favours real outcomes over projections.

Such mechanisms would drive investment, reward transparency, and align business incentives with national climate goals.

CALL TO ACTION

With EPR operational and fee modulation implemented from 2026 onwards, the UK has an important opportunity to shape how the system continues to evolve. By embracing data, transparency and proven innovation, policymakers and industry partners can ensure the next phase of EPR delivers clear environmental and economic value.

We invite policymakers, producers, and compliance partners to:

- **Advocate for a "Green Plus" benefit within EPR frameworks.**
- Support the adoption of **open, interoperable data systems** across recycling infrastructure.
- **Align policy incentives** with verifiable, measurable performance.
- **Build consumer trust** through transparency and accountability.

Together, we can build an EPR system that drives circularity, rewards innovation, and delivers measurable impact across the packaging value chain.

EPR THAT WORKS



This whitepaper is presented by Polytag, the founder of the Ecotrace Programme, a leading initiative widely endorsed by the UK packaging sector.



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on Polytag's Ecotrace Programme.

