



Funding the Infrastructure Gap

How the Deposit Return Scheme and Investment Grade policy can stimulate the domestic food grade rPET industry

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The implementation of DRS in the UK is likely to be the most disruptive consumer initiative since COVID lockdowns. It is likely to change the way the majority of UK residents interact with retailers and beverage products specifically, every day. To deliver its full potential, it is essential that this step-change extends beyond collection alone, and supports the development of a more circular, UK based value chain for the recovered materials.

David Drew, Senior Consultant

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The Deposit Return Scheme is first and foremost an opportunity to increase recycling rates, reduce waste, and ensure more drinks containers are returned to productive use. But it is also a significant industrial opportunity. By creating reliable supplies of high-quality recycled material, the UK can attract investment in domestic reprocessing, create skilled jobs, and capture more of the economic and social value of recycling here at home.

Andrew Dean, Partner

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Bird & Bird

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For too long, the UK has treated PET as a material to be exported, downgraded, or lost from the system. The introduction of the DRS changes this. Our ambition at Enviroo is simple: to use the DRS as the catalyst for a step-change in domestic PET reprocessing — done properly, done transparently, and done sustainably. PET is where the plastics industry can prove that true circularity works. Get this right, and we create the blueprint for every other polymer stream that follows.

Ahmed Detta, Chief Executive Officer

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Executive Summary

The incoming Deposit Return Scheme (DRS) will profoundly change how the UK population recycles single-use drinks containers made from PET, aluminium, and steel (and in the case of Wales only, glass). Under the DRS, the Deposit Management Organisation (DMO; trading as 'Exchange for Change') is required to collect 90% of in-scope PET beverage bottles by 2030.

Assuming that the 90% collection target is achieved, Enviroo estimates that by 2030, up to 274 kt of PET beverage bottles could be collected via the DRS, rising to 380 kt by 2040.

Collecting this volume and quality of source separated, low contamination PET material represents the largest structural opportunity to reinvigorate and expand the UK's food-grade recycled PET (rPET) production in a generation.

Yet this opportunity is at risk of being exported.

Enviroo strongly advocates that for the UK to fully realise its Net Zero commitments, it must put in place sufficient infrastructure to enable complete bottle-to-bottle recycling infrastructure. In this paradigm, the rate-limiting step is the extrusion of washed PET flake into food grade rPET pellet.

At the time of writing, the UK's domestic PET reprocessing sector does not have capacity to reprocess all DRS-collected PET bottles back to pellet.

The UK already has capacity to create 85 kt pa of rPET pellet. An additional 35 kt pa is likely to come online by the end of 2028. This means that by 2030, without any further investment, the UK's capacity to process DRS-collected PET bottles back into food grade rPET pellet will be capped at 120 kt pa.

To achieve full circularity (i.e. to have the capacity to convert the full amount of DRS collected PET back into food grade rPET pellet) would therefore require:

- An extra **154 kt pa** pelletisation capacity by 2030.
- A further **106 kt pa** pelletisation capacity by 2040.

Thus - a total of **260 kt pa** additional capacity is required to meet the UK's needs by 2040.

Using cost and output data from Enviroo's current facility, we estimate that to meet this need would require an additional **15 recycling plants** that can each produce a minimum of 18 kt pa of rPET pellet. This would require an investment of over **£750 million**, to cover the infrastructure CAPEX plus the OPEX required with running an advanced manufacturing facility.

Without deliberate policy intervention, high-quality PET feedstock will be exported. Jobs, tax revenue, and circular economy value will be lost to other countries.

This outcome is not inevitable.

A specific, targeted package of framework decisions by the DMO, DEFRA, the Department for Business and Trade, and HM Treasury can create an Investment Grade policy to stimulate the private financing needed to underpin the volume of new food-grade PET reprocessing facilities required to meet the capacity gap and mitigate the loss to export.

Our key recommendations are structured into three groups – those for consideration by Exchange for Change, those by a wider group of policy makers, and those for reprocessors and beverage brands. Together, they create the foundations of an Investment Grade policy.

As a summary, our key recommendations include:

- Creating the conditions within the DRS handling and sorting infrastructure to deliver PET bales of the highest quality and minimal contamination to UK reprocessors.
- Routing PET bales from sorting centres to UK reprocessors who can produce food grade outputs.
- Exchange for Change developing long term tolling contracts with UK reprocessors to produce flake and/or pellet.
- Publication of a producer buy back framework for DRS materials.
- The UK Government committing to introduce a mandatory minimum recycled content of 30% for all in-scope DRS PET bottles by 2030.
- Continued reform of the Packaging Recovery Note system.
- Reform of the Plastic Packaging Tax (PPT).
- Allocating 20% of PPT revenues to stimulate innovation with the PET reprocessing industry.
- Critical National Infrastructure designation for the plastics reprocessing sector.
- Banning the export of any PET collected through the DRS.
- Changing UK customs codes to differentiate between vPET and rPET materials, as well as flake and pellet, for increased traceability.
- The creation of an independently verified (but anonymised) aggregate of domestic production capabilities to act as a credible national baseline for investors and policy makers.
- Beverage brands committing to long-term offtake agreements.

Taken together, these measures could unlock significant private investment to fund the new reprocessing infrastructure that the DRS feedstock stream makes economically viable, but that current policy does not provide the confidence to commit.

Ahmed Detta
Chief Executive Officer, Enviroo



1. Introduction

The incoming Deposit Return Scheme (DRS) will profoundly change how the UK population recycles single-use drinks containers made from PET, aluminium, and steel (and in the case of Wales only, glass). Exchange for Change (EFC; the trading name for the UK Deposit Management Organisation) are the not-for-profit entity who have been appointed to run the DRS in England, Scotland, and Northern Ireland (at the time of writing, the Welsh authorities are yet to appoint a scheme administrator).¹

When the scheme launches on 1st October 2027, customers buying drinks in polyethylene terephthalate (PET) bottles will be subjected to a surcharge of 20p per eligible container.² This will be refunded when the bottle is returned to the scheme. EFC are mandated by the UK Government to collect 90% of in-scope consumer PET beverage bottles via the DRS by 2030.³

This white paper evaluates how the availability of a new high-purity PET feedstock derived from the DRS collection could impact the domestic PET reprocessing sector. It also explores how wider reform of specific governmental policies could work in tandem to re-invigorate domestic food grade rPET production.

1.1 A new horizon for domestic PET reprocessing

Food grade recycled PET (rPET) suitable for food-contact packaging is the highest value end use for post-consumer PET. It commands a significant market premium, typically 15–30% more than virgin PET (vPET). However, the cost spread can widen considerably beyond this, especially when traceability, and supply-route stability are required at scale.⁴ In 2025, low oil prices saw vPET sink to ~£855 per tonne, while rPET soared to ~£1,540 per tonne,⁵ representing a £685 spread between virgin and recycled materials.

The purity standards required for food-contact rPET drives the price of rPET upwards. Through assimilation of European Food Safety Authority (EFSA) standards (EC) No 282/2008⁶ (for recycling processes) and (EC) No 1935/2004⁷ (general food contact materials) into UK law, feedstock for food grade rPET production must have <5% of material from non-food consumer applications.⁸

PET bales of kerbside origin are contaminated with food, drink, other packaging, non-PET polymers, and unrecyclable general waste. They require substantially more processing than DRS-collected PET bales to reach food grade recycled material.⁹ Historically, this has made it challenging for the UK plastics reprocessing sector to produce food grade rPET from kerbside PET bales and generate sufficient profit to remain financially viable. The quality difference between DRS and kerbside bales is directly reflected in market pricing, with bales of DRS origin worth ~40% more than those generated from kerbside collection.¹⁰

The processing burdens associated with feedstock of kerbside origin will dramatically reduce when high-quality PET feedstock with minimal contamination becomes available from the DRS. This will not only reduce processing costs, but lower the process yield losses associated with heavy decontamination protocols.

¹ <https://www.letsrecycle.com/news/welsh-retailers-pile-pressure-on-ministers-over-drs-delays>

² <https://exchangeforchange.co.uk/news/exchange-for-change-confirms-flat-20p-deposit-value-for-drs>

³ <https://questions-statements.parliament.uk/written-questions/detail/2025-11-11/89981>

⁴ <https://www.dashanpacking.com/rpet-vs-pet-cost-performance-and-compliance-compared>

⁵ <https://petpla.net/2025/06/27/hertex-observes-a-widening-price-gap-between-recycled-pet-rpet-and-virgin-pet-vpet>

⁶ <https://www.legislation.gov.uk/eur/2008/282/contents>

⁷ <https://www.legislation.gov.uk/eur/2004/1935/contents>

⁸ <https://www.efsa.europa.eu/en/press/news/120802>

⁹ <https://patents.google.com/patent/US9630353B2>

¹⁰ <https://www.tomra.com/en-gb/reverse-vending/media-center/feature-articles/what-is-rpet-plastic>

1.2 Opportunities

A steady stream of almost perfect feedstock

Valpak estimated that 251.1 kt of consumer PET beverage bottles in scope for the DRS were placed on the market (POM) in 2024.¹¹ A 90% collection rate on this volume would generate 226 kt of minimally contaminated food grade PET bottles.

By using this data as a baseline and indexing to predicted market growth rates for PET bottles in the UK, Enviroo estimates that in 2030 there could be 269.8–274.6 kt of in-scope PET beverage bottles collected by the DRS, rising to 362.6–379.9 kt by 2040 (see Appendix A).

Capitalising upon regulatory changes and capacity loss in the EU

The EU is the UK's largest export market for food and drink.¹² Around 667 million litres of UK soft drinks are exported each year (value £604.6 million),¹³ with top EU destinations including Ireland (£113.6 million), the Netherlands (£30.6 million), Belgium, Germany, France, Denmark and Spain.¹⁴

The EU's Single-Use Plastics Directive (SUPD) mandates that PET beverage bottles contain at least 25% recycled content from 2025.¹⁵ The EU Packaging and Packaging Waste Regulation (PPWR) mandates that by 2030, PET bottles must contain at least 30% recycled material. These are legally binding regulatory requirements. Therefore, UK beverage manufacturers exporting to the EU (and to Northern Ireland, as per the provisions of the Windsor Framework) must source food grade rPET at scale to meet these legislative requirements.

The EU legislation does introduce some immediate complexities for UK producers. The current SUPD implementation mandates that only rPET produced from EU post-consumer waste counts towards the 25% recycled content, meaning that UK brands must source rPET with an EU-provenance to incorporate into bottles placed onto the EU/NI markets. However, this contradicts the PPWR, which states that post-consumer plastic waste collected and processed in a third country in accordance with EU-equivalent standards can be accepted.¹⁶ Noting the inconsistency, the SUPD Implementing Decision (published in March 2026) clarified that from the 21st November 2027, rPET from outside the EU will count towards recycled content targets,¹⁷ bringing the SUP Directive in line with the PPWR.

Because bottles containing UK-derived rPET will become eligible for EU market placement from 21st November 2027, investment into UK recycling infrastructure now creates an opportunity for export sales of rPET resin to the EU, alongside supporting domestic brands with their rPET requirements.

In 2024, over 300 kt of plastics recycling facilities were lost in the EU, with 25% of that attributable to PET recycling.¹⁸ Since then, other losses have occurred (e.g. Veolia's Berburg MultiPet plant in Germany, which supplied rPET flake).^{19,20} These losses create a supply gap for EU-origin rPET, which could increase substantially when the PPWR-mandated recycled content rises to 65% in 2040.²¹

¹¹ <https://packflow.co/wp-content/uploads/sites/2/2026/05/PackFlow-Plastic-Report-2025.pdf>

¹² <https://www.fdf.org.uk/fdf/news-media/press-releases/2025/2024-trade-snapshot>

¹³ <https://www.indexbox.io/blog/soft-drink-united-kingdom-market-overview-2024-8>

¹⁴ <https://www.indexbox.io/store/united-kingdom-soft-drinks-market-analysis-forecast-size-trends-and-insights>

¹⁵ https://environment.ec.europa.eu/news/commission-consults-new-rules-chemically-recycled-content-plastic-bottles-2025-07-08_en

¹⁶ <https://www.icis.com/explore/resources/news/2025/06/04/11107708/plastic-waste-from-outside-the-eu-currently-cannot-count-towards-supd-25-target>

¹⁷ <https://spnews.com/insight-eu-confirms>

¹⁸ https://www.plasticsrecyclers.eu/wp-content/uploads/2025/11/Statistics_2025_Final.pdf

¹⁹ <https://www.argusmedia.com/en/news-and-insights/market-opinion-and-analysis-blog/recycled-polymers-market-2025>

²⁰ <https://www.bvse.de/gut-informiert-kunststoffrecycling/nachrichten-recycling/7631-veolia-tochterunternehmen-multiport-gmbh-investiert-im-jubilaeumsjahr.html>

²¹ <https://uberplas.com/news/ppwr-recycled-content-requirements-converters>

1.3 Historical barriers to investment in the UK PET reprocessing sector

Feedstock quality uncertainty

UK reprocessors have been unable to guarantee the consistency and purity of kerbside-collected PET bale feedstock, making the production economics of food grade rPET inherently unstable. The primary driver of this is the process yield loss increases that are incurred as kerbside PET bale contamination levels rise. The variability in bale feedstock quality, availability, and pricing drives instability.

Demand uncertainty

Cheap imports of vPET from China, Africa, and the East have been up to £685 cheaper per tonne compared to rPET. Recent geopolitical activity (the 'Trump tariffs') saw a diversion of vPET originally destined for the USA to the EU and UK, exacerbating the situation further. When UK brands can source cheap vPET from abroad, this reduces demand for rPET. The inability to secure offtake agreements can result in failed investments, as evidenced by the closure of Veolia's recycling facility for post-consumer PET bottles in Rostock, Germany in 2023. Beverage industry and grocery retailers could not commit to long-term purchase agreements at economically viable conditions, which Veolia stated was the "prerequisite for a closed PET loop".²²

Packaging Recovery Note (PRN) system disparity

Producers placing packaging on the UK market are obligated to demonstrate that an equivalent tonnage of packaging waste has been recycled, discharged through the purchase of Packaging Recovery Notes (PRNs; issued by accredited UK reprocessors on the tonnage of material they process) or Packaging Waste Export Recovery Notes (PERNs; issued by exporters on the full weight of the bale exported). This structural asymmetry creates a material distortion: a PERN is issued on the gross weight of unprocessed material leaving the UK, whereas a PRN issued by a domestic washline reprocessor reflects the net output of cleaned, processed material. The result is that exporters can offer cheaper compliance units than domestic reprocessors on a like-for-like tonnage basis, actively incentivising the export of plastic waste over domestic reprocessing. For UK reprocessors, this suppresses the domestic value of recovered PET, undermines the commercial case for investment in UK washline and decontamination capacity, and fragments the feedstock supply chain that food grade rPET reprocessing depends upon. The PRN/PERN disparity therefore represents a structural policy failure that works directly against the growth of a closed-loop, high-value domestic food grade rPET industry. The need for changes to the PRN system has been noted within government, as a DEFRA-led consultation on reforming the system was held in Spring 2026, though the results have not yet been published.

Insufficient Plastic Packaging Tax (PPT) levers

PPT is charged when PET bottles contain less than 30% recycled content. The break-even differential is £762.73 per tonne (the PPT rate divided by the recycled fraction: $\text{£}228.82 \div 0.30$), meaning that if the cost of rPET was ever >£762.73/tonne more than vPET, it would be uneconomical for brands to use rPET. The current implementation of the PPT has several limitations:

- It disincentivises UK brands to manufacture bottles with an rPET content above 0% but below 30%, or move beyond 30% recycled content (see Appendix 2, Table 1).
- It fails to specify that domestic recycled material should be used, where available.

Challenging market conditions

Investor confidence in plastics reprocessing remains fragile due to ongoing and fluctuating market challenges. A report recently issued by Ceres states that across the industry, tough economic conditions

²² <https://www.euwid-recycling.com/news/business/veolia-to-shutter-pet-recycling-plant-in-rostock-germany-at-year-end-120523>

contributed to the loss of ~22% recycling capacity in the UK between 2023 and 2025. The report notes that this loss of critical infrastructure has generated a significant risk to the UK Governments' circular economy and Net Zero ambitions – and warns that *“unless urgent action is taken, the UK will be forced to rely on exporting plastics waste to meet our targets and create the recycled polymers needed for a circular economy”*.²³

This capacity loss includes a high-profile failure in the UK PET reprocessing sector, the closure of Viridor's Avonmouth mechanical PET recycling plant. The closure of this plant saw an estimated 18 kt pa of pelletisation capacity loss. Viridor cited “persistently and increasingly challenging market conditions”, below-expected recycling rates, and a delay to policies announced in the 2018 Resources and Waste Strategy (where DEFRA indicated its ambition for an operational DRS in 2023²⁴) as key factors in its decision to close their facility.²⁵

Viridor and other firms who have had to close their plastics recycling facilities all cite consistent reasons underpinning their reasons to shut; weak Plastic Packaging Tax pull-through, PRN system uncertainty, high UK energy costs, cheap virgin resin, and imported recycle undercutting domestic material.

²³ <https://www.cereswre.com/s/Reimagining-Recycling.pdf>

²⁴ <https://assets.publishing.service.gov.uk/media/5c18f11740f0b60bbe0d827/resources-waste-strategy-dec-2018.pdf>

²⁵ <https://www.euwid-recycling.com/news/business/british-waste-company-viridor-to-close-avonmouth-plastics-recycling-site>

2. Current and future capacity for food grade PET reprocessing within the UK

2.1 What pelletisation capacity does the UK have?

Through conversations with industry peers, Enviroo estimates that:

- The current pelletisation capacity within the UK at the time of writing (July 2026) is ~85 kt pa.
- An additional capacity of ~35 kt pa is likely to come online by the end of 2028.
- By 2030, the UK should have the capability to produce 120 kt pa of food grade rPET pellet.

2.2 Why is it challenging to accurately model pelletisation capacity and output?

Establishing what volume of PET is genuinely recycled into food-grade rPET pellet in the UK should be a straightforward question of national statistics. In practice, it cannot be answered with confidence from any single public source. The difficulty arises from structural features of how the UK measures, regulates, and rewards recycling. The opacity sits in distinct layers, each of which introduces its own distortion.

The first layer is the point of measurement in the producer responsibility system. PRN and PERN accreditation data (the closest thing the UK has to an official record of plastics recycling) measures tonnage at the point of accreditation, not the point of pellet output. PERNs are issued on the gross weight of baled material at export, including moisture, labels, closures and contamination that will never become recycled polymer. PRNs are issued on material received into reprocessing rather than on verified output. The headline “tonnes recycled” figure therefore systematically overstates the quantity of PET that becomes usable secondary raw material, and it does so asymmetrically, flattering exported bales relative to domestically reprocessed output.

The second layer is the absence of product differentiation in official registers. The Extended Producer Responsibility (EPR) accreditation register records that an operator is an accredited PET reprocessor and the tonnage band for which it is accredited. It does not distinguish food grade pellet from non-food grade pellet, nor pellet from flake, nor bottle-to-bottle output from fibre, sheet, strapping or other open-loop applications. For the purposes of circularity, where the binding constraint is decontaminated, food-contact pellet suitable for new beverage containers, the register cannot tell us what fraction of accredited capacity is relevant at all.

The third layer is the gap between permitted tonnage, nameplate capacity and actual throughput. Environmental permits specify a maximum quantity of waste a site may accept, a regulatory ceiling that routinely sits far above installed capacity and bears no necessary relationship to what a plant produces. Nameplate capacity, where disclosed, is a marketing figure describing what equipment could process under ideal conditions. Actual output is commercially confidential and almost never published. Between bale intake and food grade pellet output sit yield losses of the order of a quarter to a third of input mass, and these losses are invisible in every public dataset.

The fourth layer is trade data. There is no dedicated customs classification separating rPET from vPET, so imports and exports of rPET pellet cannot be isolated in HMRC or international trade statistics. A material share of the rPET pellet consumed in UK packaging is imported, and a material share of UK-collected bottles is exported as bale, but neither flow can be quantified from customs records. The fate of exported material (e.g. whether it is reprocessed to food grade standard, downcycled, or lost) is effectively unverifiable once it leaves the country.

The final layer is corporate disclosure. Company filings report turnover and profit, not tonnage. Operator claims in press releases and sustainability reports are unaudited, frequently describe capacity rather than output, and are rarely stated on a consistent basis between companies or even between years for the same company.

The consequence of these compounding opacities is that the UK cannot currently state, with evidential confidence, its baseline production of food grade rPET pellet. And without a credible baseline, the capacity gap that must be closed to achieve full circularity — the difference between what a fully functioning DRS will collect and what domestic reprocessing can convert back into bottles — can only be estimated within wide bounds. Investment cases, policy instruments such as the PPT recycled-content threshold, and the commercial architecture of the deposit return scheme are all being designed on top of numbers that no party can independently verify. The risk runs in both directions: under-building capacity locks the UK into continued bale export and import dependency for compliant pellet; over-building strands capital in an industry with thin margins and volatile spreads.

2.3 The case for sharing data

Enviroo believe that UK reprocessors should unite to treat this as a solvable, collective problem rather than a competitive fact of life. The information needed to establish an accurate national picture, e.g. actual intake, yield, and food-grade pellet output by site, exists today inside the operating businesses. What is missing is a mechanism, and a willingness, to aggregate it.

The case for doing so is commercially advantageous. Verified capacity data:

- Gives investors and lenders the confidence to fund new plant, because the size of the genuine gap can be demonstrated rather than asserted.
- Gives EFC the evidence base to design tolling and offtake arrangements (discussed later in this paper) that anchor collected material in domestic reprocessing.
- Gives the government the foundation to recalibrate the PPT and packaging reforms so that they reward real recycled content rather than minimum compliance.
- Strengthens the UK's hand in demonstrating equivalence for export of rPET into EU markets, where recycled-content mandates will increasingly determine market access. Every one of these outcomes expands the value of the domestic industry as a whole.

Aggregated, independently held and appropriately anonymised reporting (either through a trade body, an accredited third party, or EFC itself) would protect legitimate commercial confidentiality while creating a shared national asset: a trusted account of what the UK produces and what it needs to build. Other sectors, from energy to agriculture, routinely report production data at this level of granularity without competitive harm. The alternative is to continue designing a multi-billion-pound circular economy transition in the dark, to the detriment of every participant. Data shared in common is not a concession to competitors; it is the precondition for the investment, policy stability, and wealth creation from which the whole industry stands to benefit.

2.4 What do Enviroo believe the current capacity gap to be?

Assuming that the 90% collection target is achieved, Enviroo estimates that by 2030, up to 274 kt of in-scope PET bottles could be collected via the DRS, rising to 380 kt by 2040.

The UK already has capacity to create 85 kt pa of rPET pellet. An additional 35 kt pa is likely to come online by the end of 2028. This means that by 2030, without any further investment, the UK's capacity to process DRS-collected PET bottles back into food grade rPET pellet will be capped at 120 kt pa.

To achieve full circularity (i.e. to have the capacity to convert the full amount of DRS collected PET back into food grade rPET pellet) would therefore require:

- An extra **154 kt pa** pelletisation capacity by 2030.
- A further **106 kt pa** pelletisation capacity by 2040.

Thus - a total of **260 kt pa** additional capacity is required to meet the UK's needs by 2040.

2.5 What is the level of investment needed to meet the capacity gap?

Enviroo recently secured £60 million to build an advanced mechanical recycling facility (Protos Park at Ellesmere Port). At full capacity, this will output 18 kt pa rPET pellet.

The cost of the new facility includes land purchase, CAPEX, construction of a bespoke building and the necessary operating cash flow to fund commissioning and rigorous product testing.

Based on Enviroo's facility spend, the investment requirements are as follows:

- To install an additional 154 kt pelletisation capacity to meet 2030 needs would require investment of £445 million.
- To install a further 106 kt pa pelletisation capacity to meet 2040 needs would require further investment of £305 million.

Therefore, the total required investment into UK infrastructure and associated long-term operational costs to process an additional 260 kt pa are estimated at **£750 million** – which is the equivalent of ~15 reprocessing plants generating production volumes as per Enviroo's current facility design and operational plan.

Without this strategic investment, the reality would be that high-quality PET collected via the DRS would likely be exported for reprocessing due to the domestic capacity gap. This would undermine the central tenets underlying the establishment of the DRS, as a mechanism to improve recycling, weaken circular economy arguments, and potentially dent public confidence in the DRS.

3. How Exchange for Change can influence Investment Grade policy

Private finance could transform the domestic PET reprocessing sector in readiness for receiving DRS feedstock. However, a fundamental investment confidence problem is the conversion margin challenge faced within the industry.

There is a limit that brands are willing to pay for rPET vs. vPET. Recyclers frequently compete with cheap vPET imports and lose good quality bale feedstock to export, all whilst navigating the high cost of doing business in the UK (e.g., energy prices). This is compounded by the absence of long-term demand certainty due to price volatility.

Investment into a food grade rPET facility requires confidence that there will be both a buyer for its output, as well as achieving sufficient margin to cover production costs across the facility's operating life. The following section outlines Enviroo's recommendations for policies and actions that EFC could take to give investors comfort, and secure the domestic rPET pelletisation capacity needed for complete circularity.

3.1 Maximising bale quality: the key to unlocking investment

The quality of bales generated at DRS sorting facilities will significantly impact downstream reprocessing. Two distinct approaches are available to EFC:

1. **A permissive approach:** Accepting mixed-colour PET bottles in the same bale, higher contamination tolerances, and/or crushed or damaged containers maximises the number of return points and operators that can participate in the collection network but could produce bales that still require significant amounts of sorting at reprocessing facilities.
2. **A tight approach:** Segregating clear and light-blue PET from coloured bottles, specifying maximum contamination thresholds, and requiring containers with readable barcodes could restrict the collection network, but could reduce processing burden.

Both approaches are found in operational DRS around the world:

- **Norway (Infinitum):** Its Skurve sorting plant uses vision spectroscopy to separate bottles by colour, achieving above 99% purity for the clear PET fraction.²⁶
- **Germany (DPG):** Retailers own the returned bottles,²⁷ which are compacted on their premises to generate mixed-colour (jazz) bales. Colour fractionation is at the recycler.

No operational DRS has attempted to introduce a quality specification that details % purity, PET-only content tolerance, moisture, per-colour fraction, or a contamination ceiling for the bales it produces. Quality is instead governed by:

1. Bilateral commercial offtake contracts between a DMO (or its counting/sorting operator) and individual reprocessors.
2. Regulations on the materials that will be permitted into the DRS.

As an example of the latter point, the Irish DMO (Re-turn) specifies that the following materials are permitted into the scheme (vs. phase out materials):

- **Bottle material:** PET accepted; PLA, PVC, PS, PET-G, PEN, PEF to be phased out.

²⁶ <https://www.pellencst.com/infinitum-most-advanced-sorting-plant>

²⁷ <https://www.reloopplatform.org/wp-content/uploads/2018/05/BOOK-Deposit-Global-27-APR2018.pdf>

- **Colour:** Clear/transparent-coloured PET accepted; Metallic colours, mineral additives, titanium dioxide and carbon black to be phased out.
- **Barrier:** Monolayer accepted; Multilayer to be phased out.
- **Closure:** PE, PP accepted; Metal (unless fully removed e.g. crown cap) to be phased out.
- **Closure liner:** PE, EVA, TPE accepted.
- **Labels/sleeves:** OPP, PP, PE, Paper, PET accepted; PVC, Metal foil, OPS, PS, PLA to be phased out.
- **Inks:** As per EuPIA guidelines for accepted inks, and excluded inks.
- **Label adhesives:** Water or alkali soluble hotmelt usage will be subject to testing; Non-recyclable hotmelt to be phased out.²⁸

If EFC went a step further than their European counterparts, and published a downstream bale specification (as well as an upstream specification for materials permitted into the DRS) then this would be a genuinely novel instrument from which the private sector could plan credible CAPEX. The UK's DRS will become the largest in the world – it can lead from the front, and become the 'best in class' by making strong decisions now.

3.2 Setting tight standards for sorting facilities

Enviroo would advise EFC to consider publishing an auditable specification that is incorporated into the logistics contracts with sorting facility operators that contains the following standards:

Input-Output Mass Balance

Sorting facilities adapt EN 15343 auditing frameworks to prove that the volume of DRS-barcode bottles received from reverse vending machines (RVMs) matches the mass output of the finalised bales. Each bale could be assigned a unique cryptographic identifier mapping back to an EN 15343 audit trail. This serves as a structural guarantee to the reprocessor that 100% of the bale content is post-consumer DRS material.

Clear and light blue PET segregation at the sorting stage

Clear PET is the primary feedstock for food grade bottle-to-bottle recycling; coloured PET requires separate processing and commands significantly lower values (it does not routinely go back into beverage bottles, and is instead 'downcycled' to lower grade applications). Enviroo would recommend that bale segregation by colour is a minimum requirement in EFC's sorting facility contracts, potentially using the CIE 1976 L*a*b* colour space guidelines cited in EN 15348 to establish a standardised baseline for "Clear/Light Blue" vs. "Coloured" PET bales.

Strict separation of DRS materials

Sorting facilities must maintain rigorous polymer separation, ensuring that the PET bale stream is not contaminated by non-PET materials introduced through the collection and consolidation process.

A 2% non-PET contamination threshold

EFC's bale specification could set a maximum non-PET contamination rate of 2%, in line with industry equivalents, such as ReMA's ISRI Specifications for PET bottle bales in North America²⁹.

3.3 Routing DRS bales to UK food grade reprocessors

Enviroo recommends that EFC offers DRS PET bales to accredited UK food grade rPET reprocessors before being made available for export, to maximise the opportunity for cradle-to-cradle bottle recycling. Where possible, logistics routes could be designed to minimise transport distance to domestic reprocessing

²⁸ <https://re-turn.ie/wp-content/uploads/Technical-Specification-and-labelling-Manual.pdf>

²⁹ https://www.isrispecs.org/orpheus_resource/pet-bottles-no-pet-thermoforms

facilities where these are geographically proximate to consolidation points.

We would recommend that EFC publish a domestic reprocessor accreditation register listing all UK facilities that meet EFC's material quality and traceability requirements, and prioritise contracted logistics flows to these facilities.

3.4 Tolling to support DRS, industry sustainability, and complete circularity

As scheme administrators, EFC needs to balance revenue from materials recovered through the DRS with the requirement to grow a local circular economy, alongside the desire from brands to increase availability of rPET. Moreover, a stable and well-functioning DRS will create significant tangential benefits – such as reducing the UK's dependence on imported rPET, catalysing domestic reprocessing investment (because pricing volatility and market risk are effectively removed as investment barriers), supporting brand recycled content commitments, and maximising the financial sustainability of the scheme itself.

To support this, Enviroo would urge EFC to consider a tiered material sales architecture (which offers bale for market liquidity, flake under tolling for processing premium capture, and pellet under tolling for direct brand supply) in its design.

There are mutually beneficial outcomes from the introduction of tolling. For recyclers, they are effectively insulated from market volatility that erodes margins and undermines investment. They can offer EFC a stable and protected service at a fair price, protected from the instability of boom-and-bust periods.

For EFC, a tiered architecture that introduces tolling contracts for flake and/or pellet across a portfolio of different reprocessors builds in resilience around concentration risk and market fluctuations.

Tier 1: Bale

Baled PET remains an appropriate exit point for a subset of buyers and circumstances. Export markets, some domestic reprocessors with integrated washing lines, and buyers seeking to process material to non-food specifications will continue to seek bale. Offering material at this level preserves market access for the broadest range of counterparties, maintains liquidity if tolling capacity is constrained, and provides EFC with a credible floor price benchmark against which to evaluate the economics of further processing. However - selling only at bale means that:

- DRS income will be subject to the volatile pricing and global commodity cycles experienced in the PET bale market.
- Brand offtakers must navigate a fragmented reprocessing market to source food grade material.
- The volatility of bale pricing could reduce brand willingness to enter long-term recycled content commitments.
- Investment in UK reprocessing capacity remains speculative rather than underpinned by volume certainty, perpetuating the country's structural dependence on rPET imports.

If the DRS achieves 90% return rates, large volumes of bales will be generated, and fewer unredeemed deposits will be retained. This can only support the DRS' financial self-sustainability if bale prices are strong. If bale prices are depressed, and EFC are forced to sell regardless (due to a lack of storage capacity, or an EFC-owned reprocessing facility), this will erode the EFC's cost recovery mechanism. As reprocessors can assume that DRS bale volumes will be large and guaranteed, they may have a reduced incentive to compete on price for the feedstock. This is commercially rational for the reprocessor, but structurally damaging for the DRS.

EFC can regain some control and improve the financial self-sustainability of the DRS by either:

- **Tolling to flake:** EFC retains material ownership, pays a bale processing fee, and sells the flake output.

- **Tolling to pellet:** EFC pays a larger processing fee, and sells the food grade rPET pellet output directly to obligated brands. EFC contracts output value rather than input value.

Tolling relationships would reposition the reprocessor from a 'buyer of commodity' to a 'service provider'. This fundamentally different commercial relationship enables processing margin to be transparent, negotiated, and capped, rather than extracted opportunistically, making a genuine tolling model credible.

Tier 2: Food grade washed flake (tolled)

EFC tolling agreements with UK reproducers to produce clean PET flake would provide reproducers with the volume certainty and revenue predictability needed to justify capital investment in dedicated food grade washing lines. This overcomes precisely the investment gap that has left the UK chronically short of domestic reprocessing capacity. Veolia's experience with Infinitem is instructive: their decision to invest in the first recycling plant dedicated to PET recycling in Norway was predicated on a long-term partnership with Infinitem, that guaranteed volume and quality.³⁰ EFC can replicate that catalytic effect.

Enviroo would recommend that EFC considers entering into tolling contracts with UK food grade reproducers to create a standardised PET flake quality specification (e.g., colour, IV, contamination threshold), which can then be passed to reproducers with pelletisation capacity to create rPET pellets at the specific specifications required by individual brands.

This will protect the value of downstream products and build confidence among brand offtakers about the consistency and availability of DRS-derived supply.

Tier 3: Food grade recycled pellet (tolled)

The highest-value exit point is food grade rPET pellet, produced by commissioning a second tolling step (extrusion, melt filtration, and IV increase) on the flake output. Again, in this model, EFC retains ownership of the material, selling food grade pellet directly to brand owners, preform manufacturers, and converters.

Enviroo understands that individual brands will have unique pellet specification requirements, and that there will not be a single 'one size fits all' solution for Tier 3 outputs. Therefore, Enviroo advises that EFC explores with the reprocessing community and brand owners how tri-partite tolling contracts could be entered into. This tier of tolling deserves consideration for several reasons.

1. **Locked-in contracts future-proofs supply.** Securing a steady supply of rPET is of critical importance for UK brands with EU-facing SKUs, amidst the rising requirements of EU legislation for recycled content. A tri-partite tolling contract can deliver domestic rPET of a defined percentage of a defined grade, on a defined timeline, with a documented chain of custody for compliance audit purposes, which will be of the utmost importance once the EU permits recycled content of non-EU origin (but produced in line with EU standards) after 21st November 2027. It also eliminates the intermediary friction that currently makes it difficult for brands to build reliable rPET supply chains from UK sources.
2. **Pellet matches the form end markets buy.** Many brands procure pellet, not flake. They do not have the equipment or appetite to manage a pelletising step in-house. If EFC can offer food grade pellet on long-term supply terms, they become a credible partner to brand recycled content programmes.
3. **It optimises alignment with PPT and EPR frameworks.** Recycled content under PPT is most cleanly verified and transferred at pellet stage. EFC-owned pellet, with full chain-of-custody documentation from collection through to conversion, offers brands the strongest possible compliance evidence. This is a meaningful commercial advantage as PPT rates increase and EPR obligations tighten.
4. **It enables EFC to enter long-term offtake agreements that underwrite DRS economics.** A brand committing to purchase food grade pellet from EFC for a fixed period provides the kind of revenue visibility that justifies EFC's own long-term tolling commitments, and in turn, the capital investment

³⁰ <https://www.plastiloop.veolia.com/our-media/success-stories/supporting-epr-norway>

decisions of its tolling partners. This virtuous cycle, where brand offtake underpins EFC revenue, EFC revenue underpins tolling contracts, and tolling contracts underpin reprocessing investment, is the structural logic that underpins the closed-loop systems observed in European DRS counterparts.

3.5 Material revenue transparency

The revenue from PET bales is a significant variable in the DRS' financial self-sustainability model. The income from sales will depend directly on the bale quality decisions described previously. Whilst Enviroo would advise EFC to consider issuing tolling contracts to produce either flake and/or pellet from DRS-collected PET – if this is not possible, then it would be helpful for EFC to publish a material pricing framework, detailing the basis on which it will sell its bales. This is essential for reprocessors seeking to build business cases for new processing capacity, since the delivered cost of DRS-grade feedstock is the primary input to their investment models.

3.6 Long-term offtake agreements (in the absence of tolling to flake or pellet)

If the EFC was unable to enter into tolling agreements with UK reprocessors, then Enviroo would recommend that the government, EFC, and the British Soft Drinks Association facilitate the development of long-term offtake agreements between UK brands and domestic reprocessors. These agreements (analogous to the power purchase agreements that have driven renewable energy investment) would commit brands to purchasing specified volumes of domestic rPET at stable prices over periods of seven to fifteen years, providing the demand certainty required to underpin reprocessing investment. The government's role in facilitating these agreements is as a convenor and, where appropriate, as a guarantor of minimum floor prices through a Contract for Difference-style mechanism analogous to those used for low-carbon electricity generation.

In the absence of tolling agreements, long-term offtake agreements would be critical in both greenlighting sector investment, as well as supporting longevity of the facility. Closure of rPET production facilities due to a lack of brand offtake after significant expenditure on facilities has been observed in other countries (e.g., Veolia's Rostock plant in Germany).-

3.7 Producer buyback framework

DRS regulations enable beverage brand producers to purchase material directly from EFC. This critical enabler of closed-loop bottle-to-bottle recycling creates the demand certainty that reprocessors need to commit capital.

We would recommend EFC publishing a producer buyback framework (including eligibility criteria, pricing basis, minimum volume commitments, and quality guarantees) before October 2027. Ideally, the framework would include a preference mechanism for producers who commit to using domestically reprocessed rPET, reinforcing the domestic reprocessing investment case.

4. How wider structural changes can support investment

A recent white paper co-published in March 2026 by Ecosurety and RECOUP makes many excellent recommendations for policy improvements to bolster the UK's plastics packaging recycling sector,³¹ which Enviroo fully endorses.

The following section focusses discussion around key levers previously identified by Ecosurety and RECOUP that Enviroo believe would significantly impact the UK's domestic food grade rPET industry. If one or more were enacted, they would give confidence to investors to commit capital and close the infrastructure gap to support domestic recycling of all DRS-collected PET.

4.1 Mandatory domestic recycled content targets

The UK currently has no domestic equivalent to the EU's PPWR and SUPD mandating the use of recycled content in consumer PET beverage bottles.

Enviroo recommends that the UK Government considers setting mandatory recycled content requirements for PET bottles: 25% from 2027, rising to 30% by 2030, to align with EU PPWR requirements. A more ambitious target would be to reach for 50% by 2030 (a target previously recommended in 2017 by the cross-party House of Commons Environmental Audit Committee, and again in 2024 by the waste sector trade body the Environmental Services Association).^{32,33} Doing so will help to support UK brands wishing to place goods into the EU market, so that they can take steps to ready themselves for the 65% recycled content mandate that will apply in 2040.³⁴ The British Plastics Federation has independently stated their belief that the UK should align with the EU's PPWR targets, to reduce the administrative burden for global companies or those exporting, and to simplify the UK's ongoing trading relationship with the EU.³⁵

Enviroo would also recommend that it is mandated that rPET is sourced domestically (when available) as this would create a durable, legislated demand floor that private capital investment requires. The domestic sourcing preference (which would apply only when certified UK food grade rPET is available at the relevant quality standards) prevents the mandate from becoming a barrier to trade whilst creating a preferential market for UK reproprocessors.

4.2 PRN reform to reward domestic reprocessing over export

The PRN system is the most urgent and structurally damaging policy failure for domestic reprocessing. In its current form, the system allows producers to discharge recycling obligations by purchasing PERNs for exported unprocessed material. Since there is no quality testing of exported material, it is possible to export poor-quality material and claim the full recovery note, whilst a domestic processor who produces food grade rPET from the same material receives no additional recognition or financial reward for the higher-value output.

DRS-collected PET bottles will sit outside of the PRN system, as when the DRS goes live, these bottles will drop out of the producer's recycling obligation entirely (not just EPR fees). As there is no obligation attached to that tonnage anymore, there is correspondingly no PRN market for it. Whilst the PRN system will not impact reproprocessors who handle DRS-collected PET bottles, the inequality imposed by the PRN system will still have deleterious impacts on those reproprocessors who manage kerbside collected PET bottles – and in the early stages of the DRS, this could still be a significant amount. As such, we would recommend PRN reform

³¹ <https://www.ecosurety.com/how-we-can-help/accelerate-change/UK-plastic-packaging-recycling-infrastructure-Recommendations-for-circularity>

³² <https://publications.parliament.uk/pa/cm201719/cmselect/cmenvaud/339/339.pdf>

³³ <https://www.duo-uk.co.uk/industry-calls-for-more-changes-to-the-plastic-packaging-tax>

³⁴ <https://www.consilium.europa.eu/en/press/press-releases/2024/12/16/sustainable-packaging-council-signs-off-on-new-rules-for-less-waste-and-more-re-use-in-the-eu>

³⁵ <https://www.bpf.co.uk/Press/pre-consumer-material.aspx>

across several areas:

1. **A quality differentiation:** PRN and PERN values become differentiated by the quality and end-use destination of the processed material. A tonne of PET exported as unprocessed bale could attract a lower PERN value than a tonne of certified food grade rPET produced domestically and sold into UK beverage packaging. This quality premium would provide a direct financial incentive for domestic reprocessing over export.
2. **Domestic processing preference:** PERNs for unprocessed PET export could be subject to a domestic residency requirement (e.g. where certified domestic food grade rPET capacity exists and is able to accept the material, export of that material could attract a lower PERN value than domestic reprocessing).

4.3 Reform of the PPT

Modelling in Appendix 2 (Table 1) using recent pricing data shows that whilst the PPT in its current format does act as a positive driver for UK brands to achieve a recycled content of 30%, its application acts as a disincentive to both companies who make an effort to increase their recycled content beyond 30%, as well as those who may struggle to source enough rPET to achieve an above 0% but below 30% recycled content.

Our modelling in Appendix 2 (Table 2) illustrates how raising the PPT value to £350/tonne would remove the disparity shown in Table 1, where a bottle containing >60% rPET is more costly to produce than a bottle containing very little to no rPET.

The data in Appendix 2 (Table 3) shows how raising the PPT to £350/tonne, and then stepping this down in increments at specific thresholds would mean that any attempt to introduce recycled content into bottles would be financially advantageous, although the current calibration of the PPT around a 30% recycled content still means UK brands pay a premium for moving beyond this point.

All models show that in its current implementation, the PPT effectively creates a ceiling of 30% recycled content. Enviroo would welcome discussion between HMRC, UK brands, and domestic reproprocessors to discuss how the shifting supply of domestic rPET could be combined with a change in PPT calibration and PPT charge to facilitate rises of rPET content in bottles beyond 30% without financial disincentives, an issue already raised by others in Parliament.³⁶

The 2025 Budget confirmed that the PPT rate would rise in 2026/27 in line with the Consumer Price Index. It is the view of Enviroo that industry needs a better long term price signal, not an inflation linked increment. This would give reproprocessors and brands the confidence to model investment cases over the 10–15-year payback periods typical of plastic processing facility capital expenditure.

4.4 Disbursement of PPT revenues to stimulate industry investment

HMRC collected £259 million in PPT receipts in 2024/25.³⁷ Allocating a proportion of this revenue (e.g. 20%) would generate approximately £50 million annually for investment in domestic reprocessing infrastructure, and provide a sustained, policy-linked capital source for the sector. This hypothecation could be structured as a competitive grant programme administered by DEFRA or Innovate UK, with co-investment requirements that leverage private capital alongside public funding.

4.5 Critical National Infrastructure designation for plastics reprocessing

Enviroo echoes previous recommendations for formally recognising plastic reprocessing facilities as Critical National Infrastructure.³⁸ This designation would unlock access to new funding streams, streamline

³⁶ <https://publications.parliament.uk/pa/cm201719/cmselect/cmenvfru/2080/208006.htm>

³⁷ <https://www.gov.uk/government/statistics/plastic-packaging-tax-ppt-statistics/plastic-packaging-tax-ppt-statistics-commentary>

³⁸ As per reference 31

planning and permitting processes through the Environment Agency (addressing the slow and inconsistent permitting that reprocessors identify as a barrier to investment), and positioning PET reprocessing within the UK's broader industrial strategy and national resilience framework.

The Department for Business and Trade could pursue this designation within the Industrial Strategy, positioning all of UK plastics reprocessing alongside battery manufacturing, semiconductor fabrication, and other advanced materials industries that have received industrial strategy support. The case for this designation is strong: domestic food grade rPET production contributes to supply chain resilience for the UK food and beverage sector, reduces dependence on imported recycled materials, supports green economy job creation, and advances the UK's Net Zero commitments through displacing vPET usage.

4.6 Bans on DRS PET bottle export

In the EU, from 21st November 2026 there will be a complete ban on EU plastic waste exports to non-OECD countries, at least until 21st May 2029 (after which, non-OECD countries can apply to the EU to accept the waste).

Current legislation pertaining to the operation of the UK's DRS does not prevent reprocessors from buying material and exporting it. Nor does the legislation prevent sale to overseas actors. The regulations require EFC to ensure the material is recycled, but do not specify *where* that recycling must happen, or by whom.

If the UK Government banned the export of PET waste collected via the DRS, high-quality PET would not be lost to overseas capabilities, and the same investment drivers identified for the European plastics reprocessing sector would arise for the UK's PET reprocessing industry.

Enviroo would welcome a ban on the export of PET bales collected via the DRS – and would support an extension of this export ban to include PET waste that remains within kerbside recycling streams. Due to the current gap in domestic recycling capacity, Enviroo would recommend that this be gradually phased in as domestic reprocessing capacity increases.

4.7 Increased traceability on imported vPET and rPET

Currently, vPET and rPET resin are indistinguishable at the import code level. Both fall under the same tariff heading: HS/HTS 3907.61 (viscosity ≥ 0.78 dl/g) and 3907.69 (other viscosities). The code is defined purely by the resin's viscosity/intrinsic viscosity characteristics, not by whether the material originated from virgin monomer feedstock or mechanical/chemical recycling.

As customs cannot currently track vPET/rPET resin flow into the UK, this enables some importers to benefit from weaker or unverifiable claims, undercutting compliant domestic recyclers. Nor does it help UK brands to verify recycled content claims, which can impact PPWR/SUPD eligibility.

The European Commission has explicitly identified this problem, and has committed to introducing new, separate customs codes for virgin versus recycled plastics, specifically to let customs and market surveillance authorities enforce rules on imported recycled content and level the playing field between domestic and imported material. This is being developed through the relaunched Circular Plastics Alliance in 2026, with a stated deliverable of the development of customs codes for recycled polymers.³⁹

Enviroo would recommend that HMRC mirrors this via the introduction of parallel UK customs codes, using the UK's own 8/10-digit commodity code extensions to distinguish both virgin from recycled materials, and PET flake from rPET pellet. Doing this will enable UK PET reprocessors to evidence rPET import displacement empirically, and reduce fraudulent/erroneous recycled-content claims.

³⁹ <https://packagingeurope.com/news/circularity-for-plastics-the-european-commissions-new-years-resolution/13777.article>

5. What a revived food grade rPET sector could deliver

5.1 Economic value and job creation

Biffa-commissioned research highlighted the potential for a £900 million annual economic boost alongside the creation of more than 9,000 jobs if the UK stopped exporting unprocessed plastic packaging waste by 2030⁴⁰.

We have estimated that an additional 260 kt pa of food grade rPET pellet production capacity is needed to enable full circularity of all PET materials collected in 2040 via the DRS. This represents approximately £750 million of capital investment, and the potential to create hundreds of additional permanent jobs in processing, logistics, and quality assurance. Moreover, the abundance of domestic rPET will tangentially benefit UK preformers, who will be able to substitute imported PET pellet with a supply of domestic rPET pellet.

These are manufacturing-sector jobs, likely to be concentrated in geographic areas (e.g. the North East, North West, and West Midlands) where job creation is a stated government priority under the Industrial Strategy, which also specifically recognises the opportunities presented by the circular economy.⁴¹ Food grade rPET production is a high-skill manufacturing operation: it requires process engineers, quality assurance specialists, materials scientists, and logistics managers, as well as the direct production workforce. The industry's geographic concentration in former industrial areas aligns directly with government regional growth objectives.

5.2 Supply chain resilience

UK brands currently favour imported rPET due to its lower cost than the domestic supply can provide. This creates supply chain vulnerabilities that domestic production would address. UK-sourced DRS-grade rPET produced domestically under a tolling contract with a transparent chain of custody and stable contractual arrangements. This offers UK beverage brands a supply chain option that is less exposed to global commodity price volatility, more readily auditable for recycled content certification, and aligned with the growing consumer and retailer preference for UK-produced, verifiable circular packaging.

5.3 Carbon savings and circular economy benefits

Replacing vPET with food grade rPET in UK beverage packaging generates direct carbon savings. Each tonne of vPET replaced by rPET avoids approximately 2.5 tonnes of CO₂ equivalent in production emissions.⁴²

In 2040, if 380 kt of DRS-collected PET was able to displace an equivalent amount of vPET, this would save 950 kt of CO₂ — the equivalent of removing 646,259 cars from UK roads.⁴³ This directly supports the UK's Net Zero commitments.

Beyond carbon, the closed-loop bottle-to-bottle recycling model enabled by DRS-grade rPET production eliminates the downcycling that characterises current UK PET recycling, where PET that cannot reach food grade quality is relegated to fibre, strapping, or film production — thus exiting opportunities for food-contact application and ultimately exiting the circular economy.

⁴⁰ https://www.biffa.co.uk/-/media/project/biffa-sites/biffa/pdfs/insights/the-great-big-circular-economy-win_final.pdf

⁴¹ <https://www.gov.uk/government/consultations/invest-2035-the-uks-modern-industrial-strategy/invest-2035-the-uks-modern-industrial-strategy#the-rationale-for-an-industrial-strategy>

⁴² <https://blog.alpla.com/en/press-release/newsroom-recycling/recycled-plastic-reduces-carbon-consumption-87-cent/11-23>

⁴³ <https://www.nimblefins.co.uk/average-co2-emissions-car-uk#nogo>

6. Summary of recommendations

Enviroo's recommendations form a coordinated package. Together, they underpin the Investment Grade policy needed to unlock private capital, close the 260 kt pa food grade rPET pelletisation capacity gap by 2040, and ensure that the value of DRS-collected PET remains within the UK.

For Exchange for Change

1. **Publish a downstream bale quality specification.** A world-first, auditable standard written into sorting facility contracts: an EN 15343 based, input-output mass balance with bale level traceability; segregation of clear/light blue from coloured PET at the sorting stage; strict polymer separation; and a maximum 2% non-PET contamination threshold.
2. **Route DRS bales to UK food grade reprocessors first.** Offer bales to accredited domestic food grade certified reprocessors before export, publish a domestic reprocessor accreditation register, and design logistics flows around proximate UK facilities.
3. **Adopt a tiered material sales architecture built on tolling.** Retain material ownership and toll to food grade flake (Tier 2) and pellet (Tier 3), selling output directly to brands, with bale sales (Tier 1) preserved for market liquidity. Tolling converts reprocessors from commodity buyers into service providers, giving the volume and revenue certainty that unlocks capital investment. If tolling contracts are not possible, we would recommend instead that EFC:
 - a. **Publish a material pricing framework.** If tolling is not adopted, set out the basis on which bales will be sold, so reprocessors can build credible investment cases on delivered feedstock cost.
 - b. **Facilitate long-term offtake agreements.** With Government and the British Soft Drinks Association, broker 7–15-year brand/reprocessor offtake agreements (analogous to power purchase agreements), with Government as convenor and, where appropriate, guarantor of floor prices via a Contract for Difference-style mechanism.
4. **Publish a producer buyback framework before October 2027.** Covering eligibility, pricing basis, minimum volume commitments and quality guarantees, ideally with a preference mechanism for producers committing to domestically reprocessed rPET.

For Government and policy makers

1. **Mandate minimum recycled content for in-scope DRS PET bottles.** 25% from 2027 rising to 30% by 2030 (with ambition towards 50%), aligned with EU PPWR trajectories, and with a preference for domestically sourced rPET where certified UK material is available.
2. **Continue reform of the PRN system.** Differentiate PRN/PERN values by quality and end use so certified food grade domestic output attracts a premium over unprocessed bale export, and apply a domestic processing preference where UK food grade capacity exists.
3. **Reform the Plastic Packaging Tax.** Recalibrate the tax so that the 30% threshold acts as a floor rather than a ceiling, and replace CPI-linked increments with a long-term price signal that supports 10–15 year investment horizons.
4. **Reinvest PPT revenues in the sector.** Allocate 20% of receipts (~£50 million annually) to a competitive grant programme, administered by DEFRA or Innovate UK, with private co-investment requirements.
5. **Designate plastics reprocessing as Critical National Infrastructure.** Position the sector within the Industrial Strategy to unlock funding streams and streamline planning and permitting.
6. **Ban the export of DRS-collected PET.** Keep high-quality feedstock in the UK, extend ban to kerbside collected PET also. Phase in gradually as rPET pelletisation capacity increases.
7. **Introduce UK customs codes distinguishing vPET from rPET.** Mirror the European Commission's

commitment by using 8/10-digit commodity code extensions to separate virgin from recycled material. Introduce additional codes to differentiate flake from pellet, enabling traceability and enforcement of recycled content claims.

For reprocessors and beverage brands

1. **Share verified capacity and output data.** Aggregated, independently held and anonymised reporting of intake, yield and food grade pellet output – via a trade body, accredited third party, or EFC – to establish a credible national baseline for investors, policy makers and EFC.
2. **Commit to long-term offtake.** Beverage brands entering durable purchase commitments translate DRS feedstock availability into a sustainable commercial market and underwrite the investment cycle.

7. Conclusion

The DRS is a once-in-a-generation regulatory change that is receiving billions of pounds from the beverage industry to set up and implement. If executed properly, it will increase collection rates of PET. Whilst the UK DRS is intended as both a litter reduction and recycling rate instrument, its most consequential long-term impact may be economic and industrial. It creates, for the first time, a managed, certified, food grade eligible PET feedstock stream at a scale that supports a viable domestic food grade rPET industry. With the right supporting policies, the DRS could stimulate £750 million of capital investment, create hundreds of manufacturing jobs, and enable hundreds of thousands of tonnes of CO₂ savings annually. To realise this potential will require:

- EFC to make decisions that preserve the food grade value of collected PET.
- Government to reform the PRN system, strengthen the PPT, mandate recycled content, and provide the industrial strategy support that gives investors' confidence.
- The beverage industry to make long-term offtake commitments that translate DRS-grade feedstock availability into a sustainable commercial market.

Enviroo is strongly advocating for EFC to consider entering into tolling agreements with domestic PET reprocessors who can produce food grade rPET at flake and/or pellet stages.

Doing so would provide the domestic reprocessing industry with long-term volume commitments at defined specifications and pricing structures, thus creating the investment conditions that the sector has historically lacked.

International evidence shows that where investment has followed DRS introduction, the catalytic mechanism has been the same: volume certainty from the scheme operator, combined with a quality premium on DRS-derived material, sufficient to justify the capital cost of dedicated food grade infrastructure. The UK has the feedstock volumes to anchor multiple such investments. What has been missing is the contracting architecture to translate that volume into bankable commitments. A tolling model, structured with appropriate contract terms and administered transparently, provides exactly that architecture. It does not require EFC to become an investor or operator. It requires only that EFC exercise its material ownership strategically, offering tolling partners the certainty they need to commit capital, whilst EFC retains the value created by that capital for the benefit of the scheme.

The optimal time to make these decisions is now.

Each week of delay narrows the window before October 2027, increasing the risk that the DRS launches without the downstream infrastructure in place to capture its full circular economy value. Each month in which DRS-grade PET is not contracted to domestic reprocessors is a month in which that feedstock will, by default, follow the path of least resistance: into bales destined for export. This is not only a missed opportunity for the UK – it risks undermining the credibility of the DRS by offshoring materials, and losing public confidence in the scheme. To avoid this, Enviroo recommends that EFC engage with those who are willing to invest in the UK's PET recycling capabilities. The key to unlocking this investment is to understand the challenges that the recycling industry currently faces and address them.

The UK has the policy levers, the industrial base, and the market demand to stimulate significant private investment into domestic PET recycling – EFC has the ability to lead conversations surrounding how these decisions can generate Investment Grade policy.

Appendix 1: Estimation of future DRS collection tonnage

Assumptions

1. **Baseline figure:** 251.1 kt DRS-compliant PET plastic bottles in-scope for the UK DRS were POM in 2024⁴⁴.
2. **Growth in PET bottles POM mirrors current estimates for the Compound Annual Growth Rate (CAGR) for the UK PET bottle market:**
 - a. Low CAGR: 3.0%⁴⁵
 - b. High CAGR: 3.3%⁴⁶

Year	DRS-compliant PET bottles POM estimate based on 3.0% CAGR (tonnes)	90% DRS collection tonnage	DRS-compliant PET bottles POM estimate based on 3.3% CAGR (tonnes)	90% DRS collection tonnage
2025	258,633	-	259,386	-
2026	266,392	-	267,946	-
2027	274,384	*	276,788	*
2028	282,615	254,354	285,922	257,330
2029	291,094	261,984	295,358	265,822
2030	299,827	269,844	305,105	274,594
2031	308,821	277,939	315,173	283,656
2032	318,086	286,277	325,574	293,016
2033	327,629	294,866	336,318	302,686
2034	337,457	303,712	347,416	312,674
2035	347,581	312,823	358,881	322,993
2036	358,009	322,208	370,724	333,651
2037	368,749	331,874	382,958	344,662
2038	379,811	341,830	395,595	356,036
2039	391,206	352,085	408,650	367,785
2040	402,942	362,648	422,135	379,922

* 90% collection tonnage estimates are not included for 2027, as the DRS only becomes operational from 1st October 2027.

NB: This model does not incorporate any allowances for further bottle lightweighting.

⁴⁴ <https://packflow.co/wp-content/uploads/sites/2/2026/05/PackFlow-Plastic-Report-2025.pdf>

⁴⁵ <https://www.futuremarketinsights.com/reports/pet-bottles-market>

⁴⁶ <https://www.industryresearch.biz/market-reports/pet-bottles-market-108268>

Appendix 2. Why PPT reform is required

Assumptions for modelling

- Public-facing cost estimates of vPET and rPET tonnages for February 2026 were retrieved from <https://plasticker.de/>⁴⁷
- Costs that were quoted in EUR were converted into GBP using the corresponding Bank of England monthly average spot exchange rate.⁴⁸
- The costs of materials were as follows:
 - vPET: £897/tonne.
 - rPET: £1,332/tonne.

Example 1. Existing PPT implementation disincentivises recycling efforts.

Table 1 below shows the raw material costs to produce 1 tonne of PET bottle at various vPET: rPET composition ratios. Table 1 also shows how the current application of the PPT affects the overall cost per tonne of bottle produced. This modelling illustrates that:

- Brands who fail to secure sufficient rPET pellet to achieve a minimum of 30% rPET content in their bottles are punished by the PPT, because application of the PPT makes it more expensive to reduce the amount of vPET below 100%.
- Brands who wish to move above a 30% recycled content are not financially incentivised to do so.
- Brands who move to a recycled content >60% are in a financially unfavourable position compared to the cost of producing a 100% vPET bottle. Those moving to 65% face a higher cost than those producing bottles with 10% rPET who also pay the PPT.

We would surmise that if the PPT remained implemented as it is currently, it would significantly disadvantage UK brands exporting to the EU when the 2040 PPWR mandate for a minimum 65% recycled content requirement becomes active.

Bottle composition		£/tonne of raw material	PPT cost	Final cost £/tonne bottles	Cost differential
vPET%	rPET%				
100%	0%	£897.00	£228.82	£1,125.82	-
90%	10%	£940.50	£228.82	£1,169.32	£43.50 costlier than 100% vPET
80%	20%	£984.00	£228.82	£1,212.82	£87.00 costlier than 100% vPET
70%	30%	£1,027.50	0	£1,027.50	£98.32 cheaper than 100% vPET
65%	35%	£1,049.25	0	£1,049.25	£21.75 costlier than 30% rPET
60%	40%	£1,071.00	0	£1,071.00	£43.50 costlier than 30% rPET
50%	50%	£1,114.50	0	£1,114.50	£87.00 costlier than 30% rPET
40%	60%	£1,158.00	0	£1,158.00	£130.50 costlier than 30% rPET
35%	65%	£1,179.75	0	£1,179.75	£152.25 costlier than 30% rPET

Table 1. How the current PPT implementation impacts the costs of bottle tonnage produced. The highlighted row shows the financial sweet spot for recycled content in bottles in this model.

⁴⁷ https://plasticker.de/docs/preise/bvse_market_report_plastics_2026_03.pdf

⁴⁸ <https://www.bankofengland.co.uk/boeapps/database>

Example 2. Modelling an increase of the PPT to £350/tonne.

This model illustrates that any bottle manufactured with a recycled content between 30% and 65% would be financially more economical than manufacturing a 100% vPET bottle. However:

- Brands moving above a 0% recycled content but failing to meet 30% are still penalised.
- Brands moving beyond 30% recycled content are still disadvantaged, due to the higher price of rPET.

Bottle composition		£/tonne of raw material	PPT cost	Final cost £/tonne bottles	Cost differential
vPET%	rPET%				
100%	0%	£897.00	£350	£1,247.00	-
90%	10%	£940.50	£350	£1,290.50	£43.50 costlier than 100% vPET
80%	20%	£984.00	£350	£1,334.00	£87.00 costlier than 100% vPET
70%	30%	£1,027.50	0	£1,027.50	£219.50 cheaper than 100% vPET
65%	35%	£1,049.25	0	£1,049.25	£197.75 cheaper than 100% vPET
60%	40%	£1,071.00	0	£1,071.00	£176.00 cheaper than 100% vPET
50%	50%	£1,114.50	0	£1,114.50	£132.50 cheaper than 100% vPET
40%	60%	£1,158.00	0	£1,158.00	£89.00 cheaper than 100% vPET
35%	65%	£1,179.75	0	£1,179.75	£67.25 cheaper than 100% vPET

Table 2. How an increase of PPT to £350/tonne impacts costs. The highlighted row shows the financial sweet spot for recycled content in bottles in this model.

Example 3. A PPT applied in tiers.

In this model the PPT is raised to £350/tonne, but is only applied to 100% vPET bottles because:

- Bottles achieving a 10%–19.99% rPET have a PPT of £233/tonne applied.
- Bottles achieving 20–29.99% rPET have a PPT of £100/tonne applied.

However, brands still obtain diminishing returns beyond a 30% recycled content. It may be that additional financial incentives or re-calibration of the PPT are required to minimise the effect of the higher rPET tonnage price, and encourage greater use of rPET in bottles >30%.

Bottle composition		£/tonne of raw material	PPT cost	Final cost £/tonne bottles	Cost differential
vPET%	rPET%				
100%	0%	£897.00	£350	£1,247.00	-
90%	10%	£940.50	£233	£1,173.50	£73.50 cheaper than 100% vPET
80%	20%	£984.00	£100	£1,084.00	£163.00 cheaper than 100% vPET
70%	30%	£1,027.50	0	£1,027.50	£219.50 cheaper than 100% vPET
65%	35%	£1,049.25	0	£1,049.25	£197.75 cheaper than 100% vPET
60%	40%	£1,071.00	0	£1,071.00	£176.00 cheaper than 100% vPET
50%	50%	£1,114.50	0	£1,114.50	£132.50 cheaper than 100% vPET
40%	60%	£1,158.00	0	£1,158.00	£89.00 cheaper than 100% vPET
35%	65%	£1,179.75	0	£1,179.75	£67.25 cheaper than 100% vPET

Table 3. How a tiered PPT impacts costs. The highlighted row shows the financial sweet spot for recycled content in bottles in this model.



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