

What Is PPWR?

PPWR entered force on **11 Feb 2025** and applies from **12 Aug 2026**. It replaces 27 diverging national regimes with one uniform EU regulation, covering **79.7 million tonnes** of packaging waste, directly reshaping every FMCG, retail, and e-commerce balance sheet through capex, stranded assets, and compliance costs.

79.7 Mt

EU Packaging Waste
Generated in 2023

Feb 2025

Regulation In Force
Direct EU applicability

Aug 2026

Application Date
All member states

\$216 Bn

Sust. Pkg Market
EU by 2035 (10.5% CAGR)

2030

Key Deadline Year
Recycled-content quotas

1 Regulatory Timeline

Feb 2025

Regulation entered into force

Feb 2026

Delegated act: pallet wraps exempted

Aug 2026

PPWR applies across all EU member states

Feb 2027

HoReCa: accept consumer-brought containers

Feb 2028

HoReCa: offer reusable take-away option

Jan 2029

90% plastic bottle collection mandatory

Jan 2030

Ban single-use plastic in dine-in settings

2030

10% reusable beverage target + Post-Consumer Recycled (PCR) mandates

2040

40% reusable beverage target

2 Five Core Mandates of PPWR

Waste Reduction

Binding targets to reduce overall packaging waste across the EU

PFAS Restriction

Ban on per- and polyfluoroalkyl ("forever chemicals") in food-contact packaging

Design for Recycle

Packaging must be recyclable both by design AND in real-world conditions

PCR Content

Minimum recycled plastic content mandated across formats; 30% PET bottles by 2030, rising to 65% by 2040

EPR Eco-Modulation

Lower fees for sustainable packaging; higher charges for non-compliant formats

3 Capex & Material Shift

The Material Shift: Why It Is Happening?

PPWR requires real-world recyclability, not theoretical. Multi-layer films and laminates are hard to separate at scale, so demand is rotating toward monomaterial plastics and fiber-based formats. Europe's sustainable packaging is forecasted to grow from \$87.9 Bn in 2026, to \$216 Bn by 2035 at 10.5% CAGR.

The Capex Cycle: A 5-Year Build-Out

EU flexible packaging recycling capacity is estimated to remain below 2.5 Mt in 2026 and must rise to roughly 8 Mt by 2030 to meet PPWR's recyclability and PCR thresholds, as per Circular Economy for Flexible Packaging (CEFLEX). Bain estimates >\$468 Bn of investment is needed for chemical-recycling cost parity.

Recent Sector M&A Signalling Intent

International Paper × DS Smith

\$7.2 Bn | EU approved Jan 2025

Amcor × Berry Global

\$8.4 Bn | Completed Apr 2025

Front-loading capex now is cheaper than non-compliance penalties later.

⚠️ 4 Three Layers of Risk

1. Compliance & Capex Risk

Virgin-plastic converters face margin compression; chemical recycling needs **\$468 Bn** before cost parity, a 20-30 year horizon. Smaller converters without balance-sheet depth face margin compression well before payback.

2. Stranded-Asset Risk

Multi-layer films and non-recyclable laminates face **effective phase-out by 2030**; companies without transition plans face declining order books from FMCG customers chasing 2030 recycled-content quotas.

3. Regulatory-Uncertainty Risk

Key technical details still being finalised via delegated acts (recyclability grading, label formats, empty-space methodology). Designs locked-in early may require costly revision.

The same regulation that strands multi-layer flexibles creates structural demand uplift across fibre, recycling infrastructure, and reverse-vending hardware. Unevenness is more investable than the regulation itself.

🏠 5 Sector Impacts: Winners & Losers

Beverages & Brewing

- Reusable beverage targets are 10% by 2030 and 40% by 2040; beer is most exposed (wine, spirits, milk exempt).
- PCR content for PET bottles is mandated at 30% by 2030, rising to 65% by 2040.
- Plastic bottle collection rates must reach 90% by 2029, against the current EU average of around 47%.
- PwC estimates the soft-drink refill cost at \$18.7 Bn, far above the EC's own estimate of \$1.73 Bn.
- The Reverse-Vending Machine (RVM) market is forecast to grow from \$864 Mn in 2024 to \$1.95 Bn by 2035.

WINNERS

- Mature returnable-system operators in Germany, Belgium, and the Netherlands are well positioned.
- PET bottle producers benefit because the regulation improves the format rather than phasing it out.

LOSERS

- Beer producers without returnable-bottle infrastructure face high adaptation costs.
- Soft-drink brands relying on single-use formats in low-DRS markets are most exposed.

OPPORTUNITIES

- Deposit Return Scheme (DRS) hardware leaders Tomra (Norway) and Envipco (Netherlands) gain mandated demand.
- DRS-enabled markets show strong collection-rate uplift: Germany 98%, Norway 92%, Lithuania 34% to 92% in two years.

HoReCa & Food Service

- From January 2030, single-use plastic for dine-in food and condiments is banned across the EU.
- Operators must accept consumer-brought containers from February 2027.
- Reusable take-away options become mandatory from February 2028.
- Paper and fiber packaging is already recycled at around 75% in the EU according to EPRC, making it a viable substitute for exposed plastics.
- The EU paper packaging market is projected to grow from \$99.8 Bn in 2026 to \$122.6 Bn by 2031.

WINNERS

- Contract caterers with established reusable-ware programs are best positioned.
- Reusable-container service providers gain durable, mandated demand.

LOSERS

- QSR and delivery operators face the heaviest logistics drag from the dine-in ban.
- Single-use packaging suppliers to the dine-in segment lose addressable market.

OPPORTUNITIES

- Paper and fiber packaging converters are the clearest substitute for exposed plastics in food service.
- Reusable-container service platforms scale across both dine-in and take-away under a single regulatory tailwind.

\$6.7 Bn

Pouch Recycling Mkt
By 2036 (15.3% CAGR)

\$122.6 Bn

Paper Pkg Market
EU 2031 (from \$99.8 Bn)

\$1.95 Bn

RVM Market
By 2035 (from \$864 Mn)

90%

Bottle Collection
Mandated target by 2029

Retail & Grocery

- Retailers above 400 m² sales area must dedicate 10% of sales area to refill stations by 2030.
- EPR surcharges swing between 5% and 50% depending on packaging recyclability.
- DRS Reverse Vending Machines (RVMs) cost between \$23,000 and \$47,000 per unit, creating significant capex requirements.

WINNERS

- Discounters with fewer SKUs and strong private labels are best positioned to comply quickly.
- Retailers with vertically integrated own-brand portfolios capture EPR-fee savings directly.

LOSERS

- Mid-tier grocers with broad SKU ranges and complex packaging mixes face the highest cost.
- Retailers in early-stage DRS markets face capex front-loading on RVMs and back-end logistics.

OPPORTUNITIES

- RVM hardware suppliers and DRS scheme operators benefit from regulator-mandated rollout.
- In-store refill technology providers gain a structurally new product category from the 10% refill-area rule.

Personal Care & Beauty

- Hotel toiletry single-use formats are banned from January 2030.
- A minimum 10% PCR content applies to contact-sensitive plastics by 2030.
- Refillable formats already account for around 15% of new EU cosmetic launches in 2025.
- The PPWR-compliant pouch recycling market is forecast to grow from \$1.4 Bn in 2025 to \$6.7 Bn by 2036, a 15.3% CAGR.

WINNERS

- Premium brands with refillable systems and design flexibility absorb the shift most easily.
- Hotel-amenity service providers offering bulk-dispenser solutions replace the banned single-use formats.

LOSERS

- Mass-market players reliant on single-use sachets and miniatures face structural pressure.
- Hotel toiletry contract suppliers face an effective phase-out from the January 2030 ban.

OPPORTUNITIES

- Recycling-infrastructure firms in delamination, deinking, and advanced sorting for flexibles capture the pouch-recycling capex cycle.
- Refill and dispenser-format specialists gain regulator-driven adoption across both retail and hospitality channels.

E-commerce & Parcel

- A 50% empty-space ratio cap is binding on transport packaging from 2030.
- McKinsey estimates right-sizing cuts freight cost by 6-15% per carton.
- Fashion mailers carry the highest non-compliance risk because of 25-40% return rates that drive oversized packaging.

WINNERS

- Operators that self-fund right-sizing investment via volumetric weight savings see fast payback.
- Carriers with parcel-density-linked pricing benefit from cleaner load profiles.

LOSERS

- Fashion e-tailers with high return rates and oversized mailers face binding compliance gaps.
- Logistics providers reliant on standard-size box programs lose pricing power.

OPPORTUNITIES

- Right-sizing technology and made-to-measure carton suppliers gain mandated demand from the empty-space cap.
- Returnable e-commerce mailer platforms become commercially viable as compliance pressure rises.

Logistics & Transport Packaging

- All intra-company and domestic transport packaging must be reusable by 2030.
- The February 2026 delegated act provides a carve-out for pallet wraps and straps.
- Pooling-based logistics gain decisively over owned single-use systems as the rule comes into force.

WINNERS

- Pooling operators such as Brambles, CHEP, and IFCO benefit across pallets, crates, and bulk containers.
- Reusable transit-packaging suppliers and logistics-asset rental firms gain a structurally larger fleet base.

LOSERS

- Single-use pallet and crate users face one-off transition costs.
- In-house logistics teams without pooling-platform partnerships face a build-versus-rent disadvantage.

OPPORTUNITIES

- Pallet and crate pooling networks scale into a larger structurally captive fleet under the 2030 reusable mandate.
- Asset-tracking and IoT-enabled returnable-asset platforms gain a clear addressable market in regulated reuse logistics.

Glass & Metal Containers

- Both formats hold Grade A recyclability and are exempt from plastic PCR mandates.
- Aluminum cans benefit most as DRS rollout lifts collection rates from the high-50s to above 90%.
- Transition window is short - most uplift realised within 1-2 years (e.g., Slovakia 58% to 91%).

WINNERS

- Verallia, Ardagh Metal Packaging, and Ball - plastic substitution and DRS uplift.
- Aluminum can-makers capturing share from plastic in beverages.

LOSERS

- Plastic bottle producers in DRS-active markets.
- Late DRS entrants exposed to collection-rate volatility before scheme maturity.

OPPORTUNITIES

- Substitution into glass and aluminum offers regulator-driven volume growth independent of consumer trends.
- DRS scheme operators gain hardware, logistics, and counting-line revenue as more national schemes go live.

Pharmaceuticals & Medical Packaging

- Primary medicinal, medical-device, and IVD packaging exempt from design-for-recycling and PCR rules until at least the 2035 review.
- Tertiary packaging remains in scope of the 50% void-cap rule.
- McKinsey's projected 30 Mt PCR supply gap by 2030 validates the exemption pathway.

WINNERS

- Schott Pharma, Gerresheimer, and Aptar - insulated by the regulatory exemption.
- Glass-vial and pre-filled syringe specialists with Grade A recyclability.

LOSERS

- PVC blister-pack converters facing voluntary phase-out pressure.
- Tertiary-packaging suppliers exposed to the 50% void-cap rule.

OPPORTUNITIES

- Glass and elastomer specialists gain a defensible long-cycle position under the exemption.
- Tertiary right-sizing solutions for pharma logistics open a niche, capex-light opportunity.

7 Key Takeaways for Fund Managers

Capex Cycle: Fiber, Paper & Recycling Equipment Lead

- Fiber, paper, and recycling equipment makers lead a multi-year capex cycle in packaging compliance.
- Redesign and sorting capacity are unavoidable spend priorities for converters and brand owners.
- Demand tied to 2030 deadlines rather than the economic cycle, leaving names defensively positioned within staples and industrials.

Avoid: Virgin-Plastic Converters Without a PCR Pathway

- Virgin-plastic converters without a credible PCR pathway are weakest positioned.
- Triple squeeze: margin compression, retooling costs, and slower compliance vs. larger peers.
- Smaller converters most exposed; consolidation likely to accelerate into 2030.

Uneven FMCG Impact: Pharma Insulated, Beer Most Exposed

- Pharma and contact-sensitive brands shielded by exemptions through the 2035 review.
- Insulated names still face gradual shifts in packaging design and procurement economics.
- Beer, soft drinks, and HoReCa-led portfolios sit at the sharpest end of the curve.

Valuation Driver: Execution & Secured Recycled-Material Supply

- Execution and secured recycled-material supply will drive valuations more than the regulation itself.
- Regulation guarantees demand; the moat is operational delivery and feedstock lock-in.
- Screen for capex discipline, signed long-term feedstock deals, and visible PCR progress before 2030.

Conclusion & Investment Thesis

PPWR is a **structural shock to a 79.7-million-tonne sector**, creating a multi-year capex cycle across packaging design, recycling infrastructure, and reuse logistics. The investment opportunity is asymmetric: **paper, fiber, DRS hardware, recycling infrastructure and pooling companies** face mandated demand uplift, while virgin-plastic converters and non-recyclable format owners face stranded assets and margin compression. **Execution quality and secured recycled-material supply** will ultimately define winners.



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Connect with our Team



Aarya Raut

Consultant,
Investment Research

aarya.raut@aranca.com



Dharmik Patel

Assistant Manager,
Investment Research

dharmik.patel@aranca.com

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A photograph of a person climbing a steep, rocky cliff face. The climber is wearing a red jacket and a backpack, and is secured by ropes. The background shows a clear sky and a body of water.

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