

Guide to the PPWR (EU Packaging and Packaging Waste Regulation)

Strategic guide to sustainability, recycling classes, reduction obligations, and legally compliant packaging compliance under Regulation (EU) 2024/2749

SYSTEMIC STANDARDS

Oberasbacher Str. 16c
90522 Oberasbach
Germany

info@systemic-standards.com
www.systemic-standards.com

Important information for international manufacturers, importers, brand owners, and online retailers (e-commerce)

What is the PPWR and why does it concern you?

The PPWR (Packaging and Packaging Waste Regulation, i.e. EU Packaging Regulation – Regulation (EU) 2024/2749) is the fundamental European law governing packaging and packaging waste within the EU internal market. It replaces the old, inefficient EU Packaging Directive (94/62/EC) and fully harmonizes environmental law. As a regulation, it applies directly and immediately in all EU Member States from its entry into force (with phased transition periods starting in 2026/2030), without leaving any national discretion for exceptions.

Unlike product-specific directives (such as CE marking for electronics), the PPWR applies to every single physical product placed on the market in the European Union—because virtually every product has packaging.

It affects all companies that sell products in the EU—regardless of whether they are based inside or outside the EU.

The objective:

Less packaging waste
More recycling
Greater transparency for consumers

The reality for companies:

Significantly stricter requirements for packaging, labeling, and documentation.

The core principle of the PPWR:

Packaging may only be placed on the EU internal market if it fully complies with the strict criteria of the regulation regarding recyclability, material reduction, hazardous substance limits, and labeling.

The PPWR distinguishes between three levels of packaging, all of which are regulated equally:

- **Sales packaging (primary packaging):** The immediate enclosure of the product (e.g. the perfume bottle or the box of a smartphone).
- **Grouped packaging (secondary packaging):** The bundling of multiple sales units (e.g. the plastic wrap around a six-pack of beverages).
- **Transport packaging (tertiary packaging):** Packaging used for shipping or logistics (e.g. shipping cartons in e-commerce, pallets, stretch films).

2. Why the PPWR is particularly relevant for you

Many companies are currently focusing on product safety (e.g. GPSR or CE) – but overlook the following:

No compliant packaging = no market access

This means:

The PPWR radically shifts the focus of EU compliance. A product can be technically perfect and safe (CE- and GPSR-compliant) – if the packaging in which it is delivered does not meet the PPWR sustainability criteria, the overall product is not marketable and is subject to a complete sales ban.

Reason: The packaging is not compliant

3. What consequences can arise in case of non-compliance?

The market surveillance authorities of the EU Member States work closely together in packaging enforcement with national packaging registers (e.g. the Central Agency Packaging Register LUCID in Germany) and customs authorities at the borders. In the event of violations, severe sanctions may apply:

E-commerce platform bans (interface with marketplaces):

Online marketplaces (Amazon, eBay, Temu, etc.) are legally required to automatically block seller listings if packaging compliance and national registration numbers are not digitally provided.

Sales bans and customs blockages:

Imported goods are stopped at the EU's external borders if transport packaging or primary packaging is not labeled in accordance with legal requirements or contains prohibited single-use plastic elements.

Mandatory market surveillance audits:

Companies must demonstrate compliance with recycled content quotas and recyclability through recognized technical conformity documentation. If such documentation is missing, the immediate withdrawal of the product from the market may be enforced.

Draconian fines:

The penalty framework is based on the company's revenue and, in cases of systematic violations of labeling, reduction, or registration obligations, can reach levels that threaten the company's existence.

4. The key requirements of the PPWR

To ensure PPWR compliance of your packaging, you must implement five fundamental pillars:

Ensuring recyclability (Design for Recycling):

From 2030 onwards, all packaging must be recyclable. It will be classified into recycling performance classes A, B, or C. Packaging rated class D or lower may no longer be marketed.

Compliance with minimum recycled content quotas:

For plastic packaging, strict mandatory quotas apply for the use of post-consumer recyclates (PCR) – phased in from 2030 and tightened further from 2040.

Strict packaging reduction (empty space prohibition):

Packaging weight and volume must be reduced to the absolute minimum required for the safety and functionality of the product. For e-commerce shipping packaging, a maximum empty space ratio of 50% applies (artificially inflating boxes with void fill materials is prohibited).

Implementation of harmonized EU labeling:

Every package must be marked with standardized EU-wide pictograms that clearly indicate to consumers what material the packaging is made of and in which waste bin it must be disposed.

Ban on specific single-use packaging:

Certain types of plastic packaging will be completely banned from 2030 (e.g. mini packaging for hotel cosmetics, plastic overpackaging for fresh fruit/vegetables under 1.5 kg, and mini sauce portions in the food service sector).

5. The Roadmap to PPWR Compliance: In 4 Steps to Packaging Approval

We guide you in a structured manner through the entire process of packaging optimization and certification:

Step 1: Packaging and Material Analysis

We take inventory of all packaging components you use (cardboard, films, inlays, adhesive tapes) and match them against the material prohibitions and thresholds of the PPWR.

Step 2: Conformity Assessment & Recycling Classification

We evaluate your packaging according to the official "Design for Recycling" guidelines and calculate the empty space ratio of your shipping packaging to prevent penalties or suspensions.

Step 3: Creation of Technical Documentation

We create the legally required technical documentation regarding the material composition, the recycled content, and the recycling class of your packaging.

Step 4: Label Design & Market Registration

We design the correct, harmonized EU waste separation symbols for your layouts and link them with the necessary country registrations (EPR) in the European target market.

6. Important Distinction: PPWR vs. CE, GPSR & EPR

The PPWR fits into the complex European compliance landscape, but differs fundamentally from the other laws in its objective and application:

6.1 PPWR vs. CE Marking & GPSR

Focus: CE and GPSR concentrate exclusively on the technical properties, function, cybersecurity, and physical safety of the product itself to protect the user from harm. The PPWR largely ignores the product's function and exclusively regulates the shell (the packaging) from an ecological perspective.

Interface: A product that is extremely sensitive due to its CE directives (e.g., a sterile medical device or highly sensitive sensor technology) may claim exemptions from PPWR material reduction if the packaging can be proven to serve product protection. However, these exemptions must be justified in detail in the technical file.

6.2 PPWR vs. EPR (Extended Producer Responsibility)

Focus: EPR is a purely financial and organizational principle regulated by national laws (e.g., the Packaging Act in Germany, the AGECL law in France). It obliges the trader to pay money to a dual system to finance the collection and disposal of waste. The PPWR, on the other hand, is the overarching European material law that prescribes how the packaging must be technically designed and physically printed.

Relationship: The PPWR utilizes national EPR registers to monitor compliance with its rules. Anyone who disregards the PPWR requirements (e.g., by using incorrect waste separation symbols) automatically violates the EPR specifications, which leads to the immediate suspension of the EPR registration number.

7. Product-Specific Packaging Requirements and Practical Examples

Depending on the product category, the PPWR places completely different requirements on primary and secondary packaging.

Practical Example 1: Cosmetic Products (e.g., face cream in a glass jar with an outer cardboard box)

Relevant PPWR Challenges: Prohibition of double bottoms and artificial cavities intended to optically enlarge the product. Classification of the recyclability of composite materials (e.g., plastic lids with metal elements).

Mandatory Measures According to PPWR:

- **Packaging Minimization:** The outer cardboard box must fit as closely to the glass jar as technically possible. Artificial cardboard spacers inside the box are illegal.
- **Labeling:** The standardized EU waste sorting pictograms for glass and plastic, respectively, must be affixed both to the outer cardboard box and to the jar itself.
- **Recycled Content Rate:** If plastic is used for the lid, it must meet the mandatory minimum PCR content starting from 2030.

Practical Example 2: Consumer Electronics (e.g., smartphone in a premium folding box)

Relevant PPWR Challenges: Reduction of plastic inlays, prohibition of unnecessary protective films, compliance with the empty space restriction.

Zwingend erforderliche Maßnahmen nach PPWR:

- **Material Substitution:** Replacement of all internal plastic trays (inlays) with molded pulp (molded fiber) or cardboard structures to achieve a mono-material packaging (100% paper/cardboard), which raises the recycling class to an "A".
- **Empty Space Audit:** The technical documentation must prove that at least 60–70% of the box's volume is filled by the smartphone, the charging cable, and the manual.

Practical Example 3: E-Commerce & Mail Order (e.g., online retail of shoes or clothing)

Relevant PPWR Challenges: Strict regulation of tertiary or transport packaging (shipping bags and shipping boxes).

Mandatory Measures According to PPWR:

- **50% Empty Space Restriction:** Use "variable boxes" or precisely dimensioned mailing bags. If a large box is filled to more than 50% with bubble wrap or paper chips, this constitutes a direct violation of the law.
- **Reuse Quota:** Online retailers must ensure that a certain percentage of their shipping packaging is handled via functioning reuse systems (reusable shipping bags/boxes) (staged quotas starting from 2030).

8. The PPWR in Online Retail (E-Commerce)

E-commerce is the main driver of packaging waste and is therefore under permanent surveillance by EU authorities. Online retailers are subject to stricter documentation obligations:

EPR and PPWR Transparency in the Listing: Marketplaces require digital proof that the packaging of the offered product is properly licensed and that the technical data sheets regarding recyclability are available.

Proof of Shipping Packaging Compliance: As an online retailer, you are usually the "party placing the shipping packaging on the market." You must independently prove the conformity of the boxes and mailing bags you use and financially license them in the respective country of the end consumer.

Automated Data Reconciliation: European market surveillance cross-references the sales data of the marketplaces with the reported packaging quantities in the registers. Discrepancies lead to immediate tax and regulatory prosecution.

9. Your Liability Along the Supply Chain

The PPWR holds every actor in the commercial chain accountable:

The Brand Owner:

Is legally considered the manufacturer of the packaging if he has the product packaged under his brand. He bears full responsibility for the "Design for Recycling" and compliance with the recycled content quotas.

The Importer:

If he imports packaged goods from a third country (e.g., China) into the EU, he must verify the manufacturer's technical documentation and is fully liable if the packaging contains prohibited substances or designs.

The Fulfillment Service Provider:

Assumes the packaging on behalf of others (e.g., Amazon FBA). If shipping packaging is provided in the process, either the fulfillment service provider or the trader (depending on the contract structure) is considered the party placing this transport packaging on the market.

The White-Label and Import Trap:

Anyone who thinks the packaging is "the business of the manufacturer overseas" is liable upon import as the first party placing it on the market in the EU with their entire corporate assets for all violations of packaging law.

10. Why Many Packaging Compliance Projects Fail

Ignoring Composite Materials: Many traders declare a packaging as "cardboard" but overlook that the paperboard is laminated with a thin plastic layer. In a laboratory audit, this leads to a drastic downgrade of the recyclability and to incorrect EPR reports.

Missing Focus on Accessories: Often, the main box is optimized, but small plastic strings for labels (e.g., on clothing) or plastic cable ties on electronics are forgotten. The PPWR considers all packaging elements.

Underestimating the Country-Specific EPR Linking: Although the PPWR is an overarching EU law, the financial processing must still take place separately with the national systems in each of the 27 EU countries. Pure "EU certificates" without national registration are worthless.

11. Our Approach: Holistic Material & Packaging Compliance

We do not view packaging as a troublesome waste product, but as an integral, legally compliant component of your product's success. Our approach combines product-specific engineering knowledge (CE/GPSR) with modern material science. We optimize your packaging in such a way that it not only meets the statutory minimum requirements of the PPWR, but also verifiably minimizes your ongoing EPR licensing fees in the EU single market through excellent recycling classes.

12. Statutory PPWR Mandatory Information and Symbols

The PPWR prescribes standard, harmonized labeling throughout Europe. The symbols must be clearly visible, legible, and permanently printed on the packaging or attached as a label.

The Statutory Mandatory Elements on the Packaging:

The Harmonized Material Pictogram: Indicates the material group via standardized color codes and symbols (e.g., PAP 20 for corrugated cardboard, LDPE 4 for plastics).

The Disposal Instruction for Consumers: A self-explanatory graphic symbol that specifies into which waste fraction the element belongs (e.g., blue bin for paper).

The Notice on Recycled Content (if applicable): Packaging that advertises a PCR content must display the exact, certified percentage directly next to the logo.

Reusable Packaging Labeling: If it is a legally recognized deposit or reusable packaging, a QR code must be attached to inform the consumer about the return system and the collection points.

✗ Typical Errors Under the PPWR

- Packaging is not audited
- Too much or unnecessary material
- No consideration of recyclability
- No material labeling
- No proof or documentation available
- Shipping packaging is ignored

✓ Compact PPWR Checklist

A PPWR-compliant packaging requires:

- Identifiable materials
- recyclable design
- minimized material usage
- if applicable, disposal labeling
- proof & documentation
- consideration of shipping packaging

13. Checklist – Required Documents for the PPWR Pre-Audit

To check the regulatory maturity level of your products in a legally compliant manner, the documents must be recorded in a structured structure. Please submit these documents to us in a collected manner (a separate email per product line) to info@systemic-standards.com

Packaging Bill of Materials (BOM):

A complete list of all packaging components (primary, secondary, and transport packaging) including the exact weight in grams and the material type.

Technical Drawings & Layouts:

True-to-scale construction drawings of the packaging as well as the complete print data (graphic layouts) to check the placement and size of the waste separation symbols.

Supplier Certificates (Material Conformity):

Proof from upstream suppliers regarding pollutant thresholds (e.g., heavy metal test reports according to PPWR specifications, PFAS-free status) and certificates regarding the proportion of post-consumer recycled content (PCR).

Empty Space Calculation (E-Commerce):

For shipping packaging: A mathematical comparison of the actual product volume to the total volume of the shipping box to prove compliance with the maximum empty space ratio of 50%.

EPR Registration Certificates:

A list of all existing registration numbers in the EU target countries (e.g., LUCID number for Germany, SYDERLOG for France) as well as the contracts with the dual systems.

Reusable & Circular Concepts:

If applicable: Proof of participation in existing deposit or return systems as well as logistical process plans for reuse.

14. Next Step to Legally Compliant Market Approval

The PPWR ends the era of unregulated, oversized packaging in European trade. Anyone who delays the transition process risks total exclusion from the major e-commerce platforms and massive problems at customs starting from 2026. Proactive optimization not only protects you from sensitive penalties, but also directly lowers your logistics and packaging costs through the reduction of material and empty space.

Why Systemic Standards?

We do not believe in rigid bureaucracy, but in smart, systemic processes. We link deep legal and technical expertise with practical, economically sensible solutions for modern importers, manufacturers, and distributors. Whether it is a consumer good, complex electronics, or an industrial machine – we ensure that your products meet European safety standards not just on paper, but in actual daily practice.

Systemic Standards – Competence in Product Safety. Excellence in Compliance.

Systemic Standards • Oberasbacher Str. 16c • 90522 Oberasbach • Germany
info@systemic-standards.com • www.systemic-standards.com