PPWR and EU Food Contact Materials Regulation

Regulatory convergence, compliance strategy, and business implications for food packaging

Prepared by	Regulatory Strategy Consulting Kunz | Dr. Erika Kunz
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Scope	European Union packaging, packaging waste, and food contact materials framework
Audience	Packaging manufacturers, food producers, converters, retailers, brand owners, regulatory affairs, sustainability, quality, procurement, and compliance leaders

Food packaging compliance in the EU is no longer a sequential question of safety first and sustainability second. Under the PPWR and the Food Contact Materials framework, businesses must demonstrate that packaging is simultaneously food-safe, chemically controlled, recyclable, traceable, and supported by robust technical documentation.

Legal note: This white paper is for general information and strategic orientation only. It does not constitute legal advice. Companies should verify obligations against applicable legislation, guidance, product-specific facts, and local implementation practice.

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1. Executive Summary

The European Union has materially reshaped the regulatory context for packaging through Regulation (EU) 2025/40 on packaging and packaging waste, commonly referred to as the Packaging and Packaging Waste Regulation or PPWR. The PPWR introduces lifecycle-oriented obligations for packaging design, waste prevention, recyclability, reuse, recycled content, labelling, and restrictions on certain substances. [1]

For food packaging, these obligations do not replace the existing Food Contact Materials framework. Instead, they add a second compliance dimension. Food-contact packaging must continue to satisfy safety and inertness principles under Regulation (EC) No 1935/2004, be manufactured under Good Manufacturing Practice rules, and comply with material-specific legislation such as the Plastics Regulation and the Recycled Plastics Regulation where applicable. [2][3]

> **Executive insight**
>
> The central challenge is integration. A packaging format that is technically recyclable but fails food-contact migration requirements is not market-ready. A packaging format that is food-safe but fails PPWR recyclability, substance restriction, minimisation, or documentation obligations may equally become commercially or legally unsuitable.

This white paper reframes PPWR and FCM compliance as one integrated packaging governance agenda. It identifies priority risk areas, outlines business implications for the food packaging value chain, and proposes a phased compliance roadmap for organizations preparing for implementation.

2. Why Food Packaging Compliance Is Changing

Food packaging has traditionally been evaluated primarily through the lens of food safety, shelf-life protection, hygiene, and consumer information. These functions remain essential. However, the policy context has expanded: packaging is now treated as a major lever for circular economy performance, resource efficiency, waste prevention, and chemical sustainability. The PPWR makes this shift operational by covering the full packaging lifecycle and by replacing the previous directive-based framework with a directly applicable regulation. [1]

For business leaders, the practical consequence is that packaging decisions now sit at the intersection of regulatory affairs, R&D, quality, sustainability, procurement, legal, supply-chain management, and commercial strategy. Redesign decisions made for recyclability or recycled content can create food-contact, performance, procurement, or claim-substantiation issues if they are not managed through an integrated process.

Strategic premise

Future-ready packaging portfolios will be those that can demonstrate compliance across five dimensions at once: food safety, chemical safety, circularity, recyclability, and traceability.

3. The Regulatory Architecture

3.1 Packaging and Packaging Waste Regulation

Regulation (EU) 2025/40 establishes harmonized EU rules for packaging and packaging waste. Its objectives include preventing and reducing packaging waste, improving recyclability and circularity, supporting reuse and refill systems where relevant, and setting requirements that apply across the packaging lifecycle. [1]

- Packaging minimisation and avoidance of unnecessary components
- Design for recycling and recyclability performance
- Recycled-content obligations for plastic packaging over time
- Harmonised labelling and information obligations
- Restrictions on certain substances, including relevant restrictions for food-contact packaging
- Conformity assessment, technical documentation, and market surveillance expectations

3.2 EU Food Contact Materials Framework

The Food Contact Materials framework is designed to ensure that materials and articles intended to come into contact with food do not transfer constituents to food in quantities that could endanger human health, bring about unacceptable changes in food composition, or deteriorate taste, odour, or appearance. The European Commission describes this framework as applying to materials and articles including food packaging, containers, processing machinery, kitchenware, and tableware. [2]

Instrument	Primary function	Compliance relevance for food packaging
Regulation (EC) No 1935/2004	General safety and inertness	Applies broadly to food contact

	framework	materials placed on the EU market.
Regulation (EC) No 2023/2006	Good Manufacturing Practice	Requires controlled, documented manufacturing processes for FCMs.
Regulation (EU) No 10/2011	Plastic food contact materials	Establishes Union list, restrictions, migration testing, and declaration requirements for plastics.
Regulation (EU) 2022/1616	Recycled plastic FCMs	Sets requirements for recycled plastic materials and articles intended to contact foods, including safety of recycling processes. [3]

4. Where PPWR and FCM Requirements Converge

The regulatory convergence is not merely additive. It creates technical trade-offs that must be resolved through structured decision-making. Recyclability, recycled content, minimisation, coatings, inks, adhesives, and barrier properties can all influence food-contact status, migration behaviour, shelf life, and consumer protection.

Business objective	PPWR pressure	FCM constraint	Integrated compliance question
Increase circularity	Use recyclable structures and recycled content	Prevent unsafe migration and contamination	Can the circular solution be validated for intended food-contact use?
Reduce packaging	Minimise weight, volume, and empty space	Maintain protection, barrier, and hygiene performance	Does minimisation compromise shelf life or food safety?
Remove substances of concern	Restrict hazardous substances and manage PFAS risk	Confirm substitutes are authorised and migration-compliant	Can alternatives deliver performance without creating new chemical risks?
Improve sorting and recycling	Harmonised labelling and design-for-recycling	Avoid misleading use conditions and maintain FCM labelling duties	Are sustainability claims and use instructions accurate and documented?

Practical implication

The compliance test is no longer: Is the packaging safe? The more complete test is: Can the company demonstrate that the packaging is safe, appropriately designed, recyclable or reusable as required, chemically controlled, documented, traceable, and suitable for its intended food use?

5. Key Compliance Risk Areas

5.1 PFAS and Substance Restrictions

PPWR substance restrictions create an immediate need to identify packaging applications that rely on intentionally added or potentially present substances of concern. Food packaging historically using grease resistance, oil barriers, or specialty coatings should be prioritized for supplier declarations, analytical screening where appropriate, alternative technology evaluation, and food-contact revalidation.

5.2 Recycled Content in Food-Contact Plastics

The policy objective of increasing recycled plastic in packaging must be balanced against the requirement to protect human health. Regulation (EU) 2022/1616 explicitly addresses the safety of recycled plastic materials and articles intended to come into contact with foods. It recognizes that plastic waste, even when originating from food use, may contain incidental contaminants and therefore requires suitable decontamination and controls. [3]

5.3 Multilayer and Flexible Packaging

Flexible food packaging often uses multilayer laminates to provide oxygen, moisture, aroma, light, or grease barriers. These structures support shelf life and food waste prevention, but can create design-for-recycling challenges. Companies should assess whether mono-material structures, compatible barrier layers, or alternative formats can achieve both performance and recyclability objectives.

5.4 Inks, Coatings, Adhesives, and Functional Barriers

Non-polymer components can be decisive for both FCM and PPWR outcomes. Printing inks, coatings, adhesives, tie layers, and barrier technologies may influence migration risk, recyclability assessment, sorting compatibility, and substance restriction status. They should be brought into the technical documentation process rather than treated as secondary details.

5.5 Reuse and Refill Systems

Reusable or refillable food packaging can support circularity but adds operational requirements around hygiene, cleaning validation, durability, damage inspection, reverse logistics, traceability, and consumer behaviour. Reuse models need a food-safety management system, not only a sustainability business case.

6. Business Implications by Stakeholder Group

Stakeholder	Primary exposure	Critical actions	Success metric
Packaging manufacturers	Design, substances, recyclability, documentation	Redesign portfolios, qualify alternatives, update technical files, validate claims	Packaging formats with demonstrable PPWR and FCM conformity
Food producers	Packaging suitability, supplier control, market access	Map SKUs, verify Declarations of Compliance, revalidate	No unvalidated packaging changes entering production

		redesigned formats	
Converters	Process controls, inks/coatings/adhesives, GMP	Strengthen change control, supplier data capture, batch traceability	Controlled conversion process with auditable documentation
Retailers and brand owners	Claims, private label, supplier assurance	Introduce supplier evidence requirements and claim governance	Consistent claim substantiation and compliant supply base
Importers and distributors	EU market access and due diligence	Verify documentation before placing products on EU market	Documented conformity at product and packaging level

7. Material-Specific Impact Assessment

Material / format	PPWR impact	FCM impact	Strategic priority
Rigid plastics	Recycled content, recyclability, minimisation	Migration, authorised substances, recycled plastic controls	Secure compliant recyclate streams and validate food-contact use
Flexible plastics	Design-for-recycling pressure and laminate simplification	Barrier and migration performance after redesign	Prioritise high-volume SKUs for redesign pilots
Paper and fibre	PFAS replacement, recyclability, coating compatibility	Safety of coatings, additives, and barrier systems	Develop PFAS-free and migration-controlled barrier alternatives
Metal	Strong recyclability profile	Coatings and linings remain key FCM concern	Maintain coating compliance and claim accuracy
Glass	High inertness and recyclability	Generally favourable FCM characteristics	Evaluate transport, weight, and reuse/refill economics
Composite packaging	Potential recycling and sorting limitations	Multiple layers and interfaces complicate assessment	Build decision trees for substitution or justification

8. Integrated Compliance Roadmap

Organizations should avoid treating PPWR implementation as a one-time regulatory check. It is a portfolio transformation program that requires phased execution, governance, and continuous monitoring.

Phase	Objective	Key activities	Outputs
1. Portfolio baseline	Create visibility across	Map materials, formats,	Portfolio inventory and risk

	packaging SKUs	suppliers, food-contact status, markets, and claims	segmentation
2. Regulatory gap assessment	Compare current state to PPWR and FCM obligations	Assess recyclability, minimisation, substance risk, DoC availability, migration data	Prioritised gap register
3. Technical validation	Validate redesigns and risk controls	Migration testing, substance screening, recyclability assessment, shelf-life and performance checks	Approved technical evidence package
4. Supplier governance	Make upstream data reliable	Update specifications, data templates, compliance clauses, audit triggers	Supplier evidence system
5. Conformity documentation	Create defensible files	Maintain DoCs, PPWR evidence, risk rationales, testing reports, claims substantiation	Central technical file and decision log
6. Monitoring and change control	Keep compliance current	Track legal updates, material changes, supplier changes, enforcement trends	Ongoing compliance governance routine

9. Illustrative Corporate Case: A Global Food Company

For a large multinational food company, PPWR and FCM convergence is not simply a packaging design issue. It requires an enterprise program spanning regulatory affairs, R&D, procurement, quality, sustainability, legal, manufacturing, and supplier management. The following case is illustrative and can be adapted to company-specific portfolio and market data.

Top priorities for 2026 to 2028

1. Map all EU packaging SKUs against PPWR and FCM requirements. 2. Identify and eliminate PFAS risk in food-contact packaging. 3. Establish EU-ready packaging conformity documentation and technical files. 4. Accelerate design-for-recycling projects for priority formats. 5. Build a supplier data and compliance-management system.

Workstream	Business question	Typical deliverable
Portfolio assessment	Which packaging formats create the highest regulatory, technical, and commercial exposure?	Risk-ranked SKU map
Food-contact continuity	Do PPWR-driven redesigns remain	Revalidation plan and migration

	validated for intended food use?	evidence
PFAS transition	Where are PFAS or PFAS-related risk indicators present?	Substitution roadmap and supplier declarations
Recyclability redesign	Which structures can be simplified without compromising shelf life?	Design-for-recycling pipeline
Supplier governance	Can suppliers provide reliable, auditable evidence?	Data templates, specifications, and audit program

10. Strategic Recommendations

Move from regulatory silos to integrated packaging governance.

Create one decision structure that combines PPWR, FCM, quality, sustainability, procurement, and commercial considerations.

Prioritise high-risk packaging segments first.

Start with food-contact flexible packaging, fibre-based grease barriers, coated or printed structures, high-volume plastic formats, and any portfolio area involving recycled content.

Treat supplier data as a strategic asset.

Reliable composition, substance, migration, and recyclability information is now foundational for market access and claim substantiation.

Revalidate every material change.

A PPWR-driven change in resin, coating, adhesive, ink, barrier layer, recycled content, or structure can alter food-contact compliance status.

Build documentation before enforcement pressure arrives.

Technical files, declarations, test reports, risk assessments, and decision logs should be audit-ready and centrally managed.

11. Outlook and Conclusion

The next phase of EU food packaging regulation will be defined by convergence. Circularity targets, chemical restrictions, food-contact safety, and documentation expectations will increasingly be evaluated together. Companies that wait until individual deadlines are imminent may find that technical redesign, supplier qualification, testing capacity, and customer approval cycles are more complex than anticipated.

The strongest position is proactive integration: assess portfolios early, connect PPWR obligations with FCM validation, eliminate substance risks, prepare evidence systems, and establish ongoing governance. In a market where customers, regulators, investors, and consumers all expect credible sustainability and safety performance, integrated compliance can become a source of operational resilience and strategic value.

White paper conclusion

Successful food packaging under the EU regulatory framework will not be defined by one attribute alone. It must protect food, protect consumers, reduce environmental impact, support circularity, and be supported by transparent evidence across the value chain.

References

[1] Regulation (EU) 2025/40 of the European Parliament and of the Council of 19 December 2024 on packaging and packaging waste. https://eur-lex.europa.eu/eli/reg/2025/40/oj/eng

[2] European Commission, Food Contact Materials, Food Safety. https://food.ec.europa.eu/food-safety/chemical-safety/food-contact-materials_en

[3] Commission Regulation (EU) 2022/1616 on recycled plastic materials and articles intended to come into contact with foods. https://eur-lex.europa.eu/eli/reg/2022/1616/oj/eng

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