



Ecodesign for Sustainable Products Regulation (ESPR)

Background, definitions, substances of concern, regulatory process, working plan, advocacy opportunities and business impact timeline

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Audience	Manufacturers, importers, brand owners, regulatory affairs, sustainability, product stewardship, R&D, procurement, packaging, IT/data, legal, public affairs and board-level decision-makers

Core thesis

ESPR is not only an environmental product regulation. It is a new operating model for placing products on the EU market. Future requirements will combine product performance, sustainability data, substances of concern, digital product information, conformity assessment, public procurement incentives and value-chain transparency.

Legal note: This white paper provides strategic orientation and does not constitute legal advice. Detailed obligations depend on product-specific delegated acts, implementing acts, harmonised standards, guidance, sector rules and company-specific facts.

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1. Executive Summary

The Ecodesign for Sustainable Products Regulation (ESPR), Regulation (EU) 2024/1781, is the EU framework for setting ecodesign requirements for sustainable products. It was published in the Official Journal on 28 June 2024 and entered into force on 18 July 2024. [1]

ESPR replaces the narrower energy-related ecodesign approach with a broad product-sustainability framework. It allows the European Commission to define performance requirements and information requirements for specific product groups through delegated acts. These requirements may address durability, reliability, reusability, upgradability, reparability, maintenance, refurbishment, remanufacturing, recycling, energy and resource efficiency, environmental footprint, carbon footprint, recycled content, waste generation and the presence of substances of concern. [1]

The first Working Plan for 2025-2030 was adopted by the Commission in April 2025 and identifies priority product groups including steel and aluminium, textiles with a focus on apparel, furniture, tyres, mattresses and several energy-related products, as well as horizontal measures on reparability and recyclability of electrical and electronic equipment. [2][3]

Executive insight

The most material impact of ESPR is not one single new compliance obligation. It is the convergence of product design, chemicals management, sustainability metrics, digital product-passport data, supply-chain evidence and market-access governance.

2. Background and Strategic Context

ESPR sits within the European Green Deal and the EU Circular Economy Action Plan. The policy objective is to move European product markets away from linear take-make-dispose models and toward products that are more durable, repairable, resource efficient, recyclable and transparent. [1][3]

Unlike traditional product legislation focused on safety or market harmonisation alone, ESPR uses sustainability as a market-access criterion. Requirements will be harmonised at EU level, avoiding fragmented national rules while creating regulatory pressure for product and value-chain transformation. [2][3]

- It applies, in principle, across a very broad range of physical products, with exclusions defined in the Regulation.
- It operates as a framework regulation: general powers and parameters are in ESPR, while concrete product obligations are set later through delegated acts.
- It links product sustainability requirements with information disclosure, including the Digital Product Passport.
- It creates new relevance for public affairs and advocacy because companies can influence preparatory studies, stakeholder consultations and Ecodesign Forum discussions before delegated acts are finalized.

3. Scope and Core Definitions

Term	Practical meaning	Corporate implication
Ecodesign requirement	A product requirement intended to improve environmental sustainability and circularity across the lifecycle. [1]	Future product approval must include sustainability and circularity criteria, not only safety and performance.
Performance requirement	A requirement specifying product performance thresholds or design characteristics, such as durability, reparability, recyclability or resource efficiency. [1]	R&D and product management must integrate regulatory thresholds into design decisions.
Information requirement	A requirement to provide product information, potentially through labels, technical documentation, websites or the DPP. [1]	Data governance becomes a compliance requirement.
Digital Product Passport	A structured digital product information system intended to improve transparency, circularity and compliance. [1]	Companies must create controlled, machine-readable product data.

Economic operator	The actor placing products on the market or putting them into service, depending on the role defined in the Regulation. [1]	Responsibilities differ for manufacturers, importers, distributors and fulfilment actors.
Delegated act	A legally binding act adopted by the Commission to set product-specific ecodesign requirements under ESPR. [1]	Concrete compliance duties arise product group by product group.

4. Substances of Concern (SoCs)

Substances of concern are one of the most strategically important ESPR concepts because they connect chemicals management, circularity, recycling, Digital Product Passports and supplier transparency. Under ESPR, substances of concern can trigger information requirements and potentially future performance requirements for product groups. [1]

Why SoCs matter

ESPR shifts the substance discussion from classical chemical safety alone toward circularity and end-of-life quality. A substance can become relevant not only because it is hazardous, but also because it may impair reuse, recycling or material recovery in a specific product context.

SoC dimension	Examples of data needed	Business challenge	Preparation action
Substance identity	Substance name, identifiers, concentration range and location in product or component.	Supplier data may be incomplete or confidential.	Create substance-data request templates and confidentiality rules.
Hazard and regulatory status	Classification, restriction status, SVHC relevance, POP or other EU-law status.	Definitions and cross-references can change over time.	Create monitoring process for REACH, CLP, POP, RoHS and sector rules.
Product-location data	Where the substance is present: component, layer, coating, material or spare part.	Bill-of-materials systems often lack substance-level granularity.	Connect BOM, material, supplier and regulatory databases.
Circularity impact	Whether substance presence affects reuse, recycling, remanufacturing or recovered-material quality.	This is often not assessed in classical chemical compliance systems.	Add recycling and waste-management input to chemical governance.
DPP disclosure	Required SoC information may need to be accessible to authorities, recyclers, repairers or other defined users.	Companies must balance transparency and confidential business information.	Define role-based access layers and audit trails.

4.1 Practical SoC Readiness Questions

- Which substances in products, components, coatings, additives, adhesives or packaging could qualify as SoCs under future product-specific rules?

- Can the company identify the exact location and concentration of relevant substances in complex products?
- Can supplier data support DPP-level disclosure and market-surveillance audit requirements?
- Could certain substances compromise recyclability, reuse or safe end-of-life treatment?
- How will the company manage confidentiality while providing legally required information to specific user groups?

5. ESPR Regulatory Process

ESPR requirements become operational through a staged regulatory process. The Regulation provides the legal basis, the Working Plan identifies priorities, preparatory work develops evidence, stakeholders are consulted, the Commission drafts delegated acts, and final requirements apply after transition periods. [1][4]

Stage	What happens	Advocacy window	Company action
1. Working Plan	Commission identifies priority product groups and horizontal measures. [2][3]	High: product prioritisation and scope input.	Assess whether products are in scope and join sector coalitions.
2. Preparatory study	Technical, environmental and economic analysis of product groups.	Very high: data, feasibility, costs and alternatives can influence requirements.	Submit evidence-based technical and economic data.
3. Ecodesign Forum	Main stakeholder consultation arena for ESPR development. [4][5]	High: direct stakeholder engagement with Commission and Member States.	Participate directly or through associations; prepare position papers.
4. Draft delegated act	Commission drafts binding product-specific requirements.	Medium-high: targeted feedback on scope, thresholds, transition periods and feasibility.	Review legal text, quantify impact and propose workable alternatives.
5. Scrutiny and adoption	European Parliament and Council scrutiny before final adoption.	Medium: political and association engagement.	Support coherent sector messaging and implementation feasibility.
6. Transition period	Companies prepare for compliance before application date.	Low-medium: guidance, standards and implementation details remain relevant.	Execute compliance projects, supplier onboarding and DPP implementation.
7. Enforcement and review	Market surveillance and future reviews adjust requirements.	Medium: feedback on enforcement, technical problems and innovation impacts.	Maintain audit evidence, monitor enforcement and prepare review input.

6. Working Plan 2025-2030

The first ESPR and Energy Labelling Working Plan 2025-2030 was adopted in April 2025. It lists priority products for which the Commission will consider ecodesign and energy-labelling requirements over the next five years. The priority products include steel and aluminium, textiles with a focus on apparel, furniture, tyres and mattresses, plus a number of energy-related products. It also includes horizontal measures relating to reparability and recyclability of electrical and electronic equipment. [2][3]

Priority area	Working Plan status	Likely requirement themes	Corporate implication
Steel and aluminium	Priority intermediate products. [2][3]	Environmental footprint, recycled content, material efficiency, DPP data.	Upstream data from materials suppliers will affect downstream product compliance.
Textiles and apparel	Priority final product group. [2][3]	Durability, recyclability, fibre composition, substances, DPP, unsold goods.	Brands must prepare supply-chain traceability and product-data systems.
Furniture	Priority final product group. [2][3]	Durability, reparability, materials, recycled content, disassembly, DPP.	Component and material data will become more important.
Tyres	Priority final product group. [2][3]	Durability, performance, material composition, abrasion and circularity.	R&D, testing and environmental-performance data will converge.
Mattresses	Priority final product group. [2][3]	Materials, recyclability, substances, durability and end-of-life data.	Supplier data and recycling-chain input become key.
Horizontal reparability	Working Plan announces horizontal measures, including reparability score. [2][3]	Reparability scoring, spare parts, information and design requirements.	Consumer-electronics and small-appliance businesses should prepare early.
Electrical and electronic equipment recyclability	Horizontal recyclability measures announced. [2][3]	Recyclability and recycled-content requirements.	Product design and material choices need stronger circularity evidence.

7. Digital Product Passport Interface

ESPR links product requirements with digital product information. For many product groups, the Digital Product Passport will become the mechanism for providing information on sustainability, substances, circularity, compliance and lifecycle handling. [1]

DPP data area	Possible ESPR content	Source systems	Risk
Product identity	Product model, manufacturer, economic operator, unique identifiers.	ERP, PLM, PIM.	Poor master-data quality.
Performance data	Durability, reparability, energy/resource efficiency, recyclability.	R&D, testing, quality.	Unvalidated or inconsistent metrics.
Environmental data	Carbon footprint, environmental footprint, recycled content, waste generation.	LCA, ESG, supplier systems.	Methodology disputes and data gaps.
SoC data	Substance name, location, concentration and safe handling information.	Regulatory, BOM, supplier declarations.	Confidentiality and incomplete supplier data.
End-of-life data	Repair, reuse, disassembly, recycling and treatment guidance.	Service, product design, recyclers.	Information not aligned with real recycling infrastructure.

8. Advocacy and Stakeholder Engagement

ESPR creates structured opportunities for advocacy because product-specific requirements will be developed through evidence-based preparatory work and stakeholder consultation. The Ecodesign Forum is the main arena for consulting stakeholders on development of rules under ESPR, including preparation of ecodesign requirements and working plans. [4][5]

Advocacy lever	Best timing	What to provide	Strategic objective
Ecodesign Forum participation	Working plan, preparatory study and draft requirement phases. [4] [5]	Sector data, feasibility evidence, lifecycle impacts, SME and competitiveness impacts.	Influence scope, thresholds, timelines and implementation practicality.
Industry associations	Before formal drafts emerge.	Common sector position and technical data.	Create coherent and credible industry messaging.
Public consultations and workshops	Preparatory-study phase.	Evidence on costs, benefits, alternatives, testing methods and data availability.	Ensure regulatory assumptions reflect operational reality.
Bilateral technical dialogue	When specific issues are complex or sector-specific.	Detailed technical papers and case studies.	Clarify technical feasibility and avoid unintended consequences.
Standards engagement	During development of methods, metrics and DPP standards.	Testing methods, data model input, terminology and interoperability needs.	Shape practical compliance infrastructure.
Customer and value-chain coalitions	Before delegated acts and during transition periods.	Shared data needs and implementation requirements.	Align upstream and downstream expectations.

Advocacy principle

Effective advocacy under ESPR is evidence-based. The strongest input combines technical feasibility, environmental benefit, economic impact, supply-chain realities, SME considerations and enforceable alternatives.

9. Business Impact on a Timeline

Companies should treat ESPR readiness as a multi-year transformation program, not a last-minute compliance exercise. The timeline below translates regulatory milestones into business actions.

Period	Regulatory development	Impact on companies	Recommended action
2024	ESPR published and entered into force. [1]	Framework became active; concrete obligations still depend on delegated acts.	Create ESPR governance and scan product exposure.
2025	First Working Plan adopted; Ecodesign Forum and preparatory activities advance. [2][3][4]	Priority products and horizontal measures become visible.	Prioritize affected portfolios and engage advocacy channels.

2026	Technical work, DPP infrastructure and product-specific preparations accelerate.	Companies need data models and supplier evidence before draft requirements mature.	Run product-data and SoC pilots; prepare evidence for consultations.
2027-2028	First product-specific requirements and DPP obligations may begin applying for early priority areas after transition periods; battery passport applies from 18 February 2027 under Battery Regulation. [6]	Market-access, DPP and conformity pressures become operational in first sectors.	Implement DPP, technical files, conformity processes and supplier onboarding.
2028	Working Plan review expected. [4]	Scope and priorities may be adjusted.	Submit evidence from pilots and early implementation experience.
2029-2030	Broader groups and horizontal measures likely mature, including reparability and recyclability topics. [2][3]	ESPR becomes embedded in product development and commercial strategy.	Scale operating model across portfolios and integrate ESPR into stage gates.
Beyond 2030	Further working plans and product groups expected.	ESPR becomes a standing product-governance requirement.	Maintain continuous monitoring and advocacy capability.

10. Enterprise Readiness Roadmap

Phase	Objective	Key activities	Outputs
1. Discover	Understand exposure and maturity.	Map products, product groups, markets, systems, suppliers, substances and packaging interface.	ESPR exposure map and readiness heat map.
2. Prioritize	Focus on products with highest regulatory likelihood and business impact.	Compare portfolio to Working Plan and likely future product groups.	Priority portfolio and strategy brief.
3. Build evidence	Create reliable product, SoC, sustainability and supplier data.	BOM enrichment, SoC screening, LCA/PCF readiness, supplier declarations.	Evidence repository and data-quality dashboard.
4. Engage	Influence requirements while they are still being developed.	Ecodesign Forum input, association positions, consultation responses, technical papers.	Advocacy package and stakeholder map.
5. Implement	Prepare products and systems for delegated acts.	Design changes, DPP, technical files, conformity assessment, training.	Compliant launch and market-access process.
6. Operate	Maintain continuous ESPR governance.	Regulatory monitoring, supplier updates, change control, audits and board reporting.	Continuous compliance operating model.

11. Technical File and Evidence Architecture

ESPR will increase the importance of controlled evidence. Companies should not wait for delegated acts to design their evidence architecture. The same repository can support DPP data, conformity assessment, claims substantiation, supplier engagement and advocacy.

Evidence layer	Typical content	Owner
Product scope file	Product category, market role, CN codes where relevant, product variants and economic-operator responsibilities.	Regulatory / product management
Design and performance file	Durability, repairability, recyclability, material efficiency, test reports and design rationale.	R&D / quality
SoC file	Substance identity, location, concentration, legal status, supplier evidence and recycling relevance.	Regulatory / product stewardship
Sustainability file	PCF, LCA, environmental footprint, recycled content, resource-use and waste data.	Sustainability
Supplier evidence file	Declarations, certificates, chain-of-custody, raw material information and audit trails.	Procurement / supplier quality
DPP and disclosure file	Published data, restricted data, access-rights model, version history and approval workflow.	IT / DPP governance
Advocacy file	Position papers, technical assumptions, cost impact, feasibility data and proposed alternatives.	Public affairs / regulatory

12. Board-Level Priorities

- Treat ESPR as a product-governance transformation, not a narrow compliance exercise.
- Map company products against the 2025-2030 Working Plan and likely future product groups.
- Create an internal SoC governance capability before product-specific disclosure rules become mandatory.
- Build a DPP-ready product data architecture with clear owners and access levels.
- Integrate sustainability and circularity criteria into R&D and product-development stage gates.
- Establish supplier evidence requirements and contractual data obligations.
- Prepare evidence-based advocacy positions during preparatory studies, consultations and Ecodesign Forum discussions.
- Develop an ESPR timeline dashboard for executive decision-making and investment prioritization.
- Align ESPR with PPWR, REACH/CLP, CSRD, customer requirements and public procurement opportunities.

13. Outlook and Conclusion

ESPR is a framework regulation, but its business impact will be concrete. As delegated acts emerge, product sustainability, substances of concern, repairability, recyclability, environmental footprint and Digital Product Passport data will increasingly become conditions for market access and customer acceptance.

Companies that start early can influence requirements, minimize implementation cost, improve data quality, strengthen supplier governance and position sustainable products more credibly. Companies that wait until delegated acts are final may discover that the most difficult tasks, such as substance-data collection, lifecycle evidence, DPP architecture and supplier transparency, cannot be completed quickly.

Final message

ESPR readiness is strategic readiness. It requires regulatory intelligence, product redesign capability, data infrastructure, supplier governance, substances-of-concern control and proactive advocacy on a shared timeline.

References

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