



From European waste to European fiber

How Europe can build a textile recycling industry - turning discarded textiles into high-quality recycled products.

Europe generated 15.2 million tons of textile waste in 2025 (Boston Consulting Group (BCG) and ReHubs, [*Advancing Textile Circularity in Europe: The Case for System Level Scale-Up*](#) (23 March 2026), of which between 60% and 70% was made up of polyester. Polyester is, in its virgin form, a fossil-based material. Is Europe ready to move on from treating this stream as waste to be managed or as a resource to be organized and upgraded, a European raw material which can be used in substitution of oil and gas as a feedstock for Europe's circular textile industry in the making?

In this regard, Europe and its Member States are once again failing to think strategically. Fragmented rules, unstable feedstock, under-investment in sorting and recycling, and the continued absence of clear recycled-content targets are causing Europe to lose both material and industrial value.

If the EU wants to use this resource to reindustrialize its textile sector, it must legislate to create a system that actually works: first secure and organize feedstock through the right Extended Producer Responsibility (EPR) framework, then create demand through mandatory recycled content in new textiles sold in Europe. That is not only an urgent societal challenge; it is also a major industrial opportunity.

Prioritize European waste: feedstock that makes circularity real

Europe's competitive advantage in circular textiles will not be cheap labor or virgin feedstock—it is availability of its post-consumer textile waste. Textile waste is the essential input for textile-to-textile recycling, yet far too much of it is downcycled, landfilled or incinerated because the regulation and economics do not currently work. For the purpose of this paper, 'textile-to-textile recycling' refers broadly to recycling processes that transform post-consumer textile waste into recycled inputs for the production of new textile products.

Textile waste as a strategic resource

The first policy priority should be to treat European textile waste as a strategic source of secondary raw materials: collect it separately, sort it effectively, and make it available for high-quality recycling within Europe. The upcoming European Union (EU) Circular Economy Act should therefore frame European textile waste as a strategically important secondary raw material for Europe's circular textile economy.

According to Textile Exchange, the world produced 78 million tons of polyester fiber in 2024 of which 69 million tons were directly made from fossil-derived sources (Textile Exchange 2025 <https://textileexchange.org/app/uploads/2025/09/Materials-Market-Report-2025.pdf>). Recycled polyester fiber production represented 9.3 million tons in 2024, with polyester textile-to-textile estimated to account for around 2% of all recycled polyester.). This requires substantial petrochemical and energy input, which will represent close to a billion barrels of oil equivalent by the end of 2027. As Europe now discards roughly 9 million tons of polyester-rich textile waste each year this means that the EU is not only managing a waste problem; it is also destroying a large stock of available feedstock through landfill and incineration. Unlike fuel, which is burned once and permanently lost, the material value embedded in polyester can be recovered through textile-to-textile recycling and reused in place of virgin polyester made from imported fossil feedstock. In commercial terms, this is a feedstock-value destruction problem: Europe is effectively burning or burying material that could substitute for new petrochemical inputs in its own textile industry.

But feedstock alone does not make a market. Even with better collection, sorting and preparation recyclers cannot finance large-scale plants unless there is reliable, long-term demand for recycled fibers. That is why Europe’s second move must be to create mandatory demand—and to do it in a way that rewards the right behavior across the whole system.

Set recycled content at European level through integrated EPR schemes

The EU should set mandatory recycled-fiber content requirements for the main fiber categories—such as polyester, cotton, and nylon—in new textiles placed on the EU market. These targets should be phased in to reflect the gradual build-up of European recycling capacity and reviewed regularly as supply, technology, and traceability systems mature.

To make those mandates work in practice, the EU should also define which recycled inputs are eligible to count toward compliance. As a matter of industrial policy, the strongest option is to prioritize recycled content derived from European post-consumer textile waste, because that is the feedstock the policy is meant to organize and upgrade. This should be done through non-discriminatory, evidence-based eligibility rules that apply equally to all suppliers: auditable chain-of-custody systems, verifiable proof of post-consumer origin, equivalent conformity assessment, robust traceability requirements and effective enforcement.

In other words, the EU should regulate for reliability, traceability, and equivalence—not simply origin as such. If non-EU recycled content can be demonstrated, through robust and independently auditable systems, to meet the same standards of traceability and proof as EU-sourced material, then it could be recognized. But absent from that equivalence, imported recycled content should not be allowed to satisfy the mandate. This is both a safeguard for the credibility of the scheme and a lawful way to align recycled-content rules with the EU’s environmental and market-integrity objectives.

In addition, one should ensure that the EPR scheme is operational from an industry standpoint. Under the revised Waste Framework Directive, each Member State must establish its textile EPR scheme within 30 months of the revised Directive’s entry into force, i.e. by 16 April 2028. But waiting for 27 bespoke national schemes risks reproducing the fragmentation that has already delayed investment and weakened the economics of textile recycling. If harmonization is reduced to a lowest-common-denominator exercise, it will not create the legal certainty or market scale the sector needs. The closer Europe moves toward common fee rules, reporting standards, audit methods, and cost-coverage obligations, the closer it gets to a functioning Single Market for textile circularity. It should therefore move toward uniform rules on producer scope, fee calculation, eco-modulation, reporting, auditing, and eligible costs—so that producers face one coherent compliance framework across the Single Market rather than 27 divergent systems.

Compliance to be assessed at brand level, not just at garment level

Recycled content obligations should apply where decisions are actually made: at the brand (portfolio) level. Brands determine sourcing strategies, contracting, and material choices across product lines; they are also best placed to manage the operational complexity of ramping recycled inputs while maintaining quality.

A brand-level mandate (sometimes called a “portfolio approach”) will set a minimum share of recycled fibers *across the total volume of textiles a company places on the EU market*, while being underpinned by product-level data and traceability systems consistent with Ecodesign Sustainable Product Regulation (ESPR) and Digital Product Passport requirements. This unlocks early action: brands can start where incorporation of recycled fibers is most technically feasible, while recycling capacity, standards, and traceability mature. It also aligns naturally with existing corporate reporting cycles.

This will require brands' procurement departments to maintain robust records demonstrating how recycled materials are allocated across their product portfolios, whilst also putting in place verifiable chain-of-custody systems to establish the link between recycled inputs and the products in which they are incorporated, in a manner consistent with Digital Product Passport requirements. They would also need auditable systems to track company-wide sales volumes, product mix, and mass-balance calculations across production sites. In this regard, the Digital Product Passport, as currently envisaged, risks falling short of what is needed on traceability: if it is to support credible recycled-content rules and real circularity, it must embed stronger and more operational traceability features.

We can already hear the objections

“This will raise costs.”

The comparison point matters. It is not quite accurate to say that a circular textile system is simply “more expensive” than the linear model, because the linear model is already in place and has been optimized for decades. A better comparison is between the cost of building circularity and the cost of continuing with a system that leaves governments and societies to absorb the consequences of doing nothing: unmanaged waste, lost material value, environmental damage and delayed industrial adjustment. On that view, the “lower cost” of the linear model is in great part a result of costs being externalized rather than eliminated. The linear model isn't cheap — it's cheap *to the seller* because the costs land elsewhere: on municipal budgets, on carbon budgets, on ecosystems, and on future generations. Chemical recycling isn't asking governments to subsidize something expensive. It's asking them to stop subsidizing something destructive by making the external costs visible. The role of policy is to bring those costs into view, allocate them more fairly, and create a level playing field for circular materials.

“This will run afoul World Trade Organization (WTO) rules”

That objection will come quickly, and it should be taken seriously—but it is not a reason to avoid acting. The legally robust route is not to reserve the market formally by nationality; it is to design the rules around legitimate environmental and market-integrity objectives, and to apply them in a non-discriminatory way. That means setting recycled-content eligibility criteria that turn on verifiable post-consumer origin, auditable chain-of-custody, equivalent conformity assessment, and enforceable proof standards for all suppliers, whether inside or outside Europe. Framed this way, the system is not protectionist—it is a compliance architecture built around reliability, anti-fraud safeguards, and genuine circular-economy outcomes.

“Traceability is impossible”

Full laboratory verification is not feasible, but robust chain-of custody models already exist and can be made auditable and interoperable via digital reporting, including through upcoming product information requirements.

“Product-level targets are more ‘fair’”

They may be fairer later, once capacity and data systems are mature. But in the scale-up phase, brand-level requirements are the fastest way to create demand while avoiding administrative overload. In any event, portfolio-level compliance should be understood as a transitional and complementary mechanism, and not as a substitute for product-level disclosure, traceability, or substantiation requirements under ESPR.

Conclusion: Waste-first policy is Europe’s industrial strategy

Europe now needs to make the transition to textile circularity real.

Reju is an actor of the circular economy, a textile-to-textile regeneration company focused on turning European post-consumer polyester textile waste into new high-quality material for the textile sector. Reju is owned by Technip Energies, a major engineering and technology company, the business of which is increasingly oriented toward energy transition and the industrial systems needed to deliver it. Technip Energies gives Reju access not only to capital, but also to the engineering capability and industrial credibility required to scale complex infrastructure.

The Dutch government recently awarded Reju a €135 million grant to build and operate its first industrial scale textile Regeneration Hub in Chemelot, The Netherlands. This is the foundation on which we are building a complete business case. In addition, Reju needs to deliver returns for equity and debt providers to finance its textile Regeneration Hubs. Such returns are a must-have for the industry to finance the massive build effort that must now be launched. The BCG/ReHubs report estimates that scaling textile-to-textile recycling in Europe to around 2.7 million tons of recycled textile annually by 2035 will require approximately €8–11 billion in capital expenditure over the coming decade.

This is where the EU must play its role. Expensive sorting and recycling infrastructure will not be delivered on the basis of policy aspiration alone. If Europe wants a circular textile economy, it must legislate and deliver a unified framework that actually works. Start with waste: strengthen and better organize Europe's post-consumer textile stream through fully harmonized EPR, enforcement, and end-of-waste clarity. Then finish with product: create reliable demand via mandatory recycled content obligations set at the brand level, with a clear Europe-first sourcing component and a predictable ramp-up. This is how Europe turns its waste problem into an industrial advantage—and how discarded textiles become high quality recycled products remade, sold, and used in Europe.

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