European Universities Community VOICES

Panel 2

ESA26
5th edition

Topic: Scaling the circular economy. How can the EU overcome uneven progress and encourage change across sectors and societies?

Executive Summary

The European Union faces a critical gap between its high-level circular economy ambitions and the reality of uneven progress across Member States. This fragmentation risks a two-speed Europe, where SMEs and economically weaker regions struggle with limited funding, technological gaps, and a lack of coordination. Key sectors, such as construction, manufacturing, and digital infrastructure, remain structurally linear, while consumers face barriers to repairability and transparent information. The overarching goal of Panel 2 is to advise the European Union on how to overcome these systemic hurdles by fostering a coordinated, equitable transition that scales circularity across all sectors and societies.

To achieve this, we propose a series of integrated policy interventions designed to bridge the implementation gap. Central to our strategy is a Differentiated Readiness Framework that tailors transition timelines and funding access to national capacities, ensuring no region is left behind. Our proposals mandate water efficiency for AI-driven data centers, introduce extended producer responsibility for high-waste streams like hygiene products, and implement a Design for Repair index to combat planned obsolescence. By leveraging public procurement for low-carbon materials, redefining logistics hubs to support reverse-flow systems, and empowering local business ecosystems, these recommendations transform logistics and infrastructure into enablers of a closed-loop economy. Together, these initiatives combine industrial innovation with social responsibility, creating a resilient European framework where circularity is embedded in daily life, from urban water management to transparent consumer labeling.

Problem Statement

he European Union has set ambitious targets for transitioning to a circular economy, yet the absence of coordinated governance mechanisms, regulatory incentives, and enabling infrastructure continues to limit progress. As a result, circularity risks remain a strategic objective rather than an operational reality across the EU.
Recycling rates vary from 12% to 69% across Member States. Small and medium-sized enterprises (SMEs), which represent 99% of EU businesses, face disproportionate barriers to accessing circular economy funding and support. At the same time, key sectors such as construction, manufacturing, and digital infrastructure remain structurally linear. These gaps risk entrenching a two-speed transition, in which economically weaker regions and smaller enterprises are systematically left behind. The next interconnected problems were identified as the main clusters, which drive this implementation deficit:

Firstly, the EU currently lacks mechanisms to adjust transition timelines or funding access based on Member State readiness. Uniform requirements applied to structurally different economies risk penalizing those with lower administrative and technical capacity, widening existing inequalities in the green transition. Secondly, the rapid expansion of AI-driven data centres has significantly increased water and energy demand, which current EU frameworks fail to regulate properly. Water-scarce regions like Spain and Italy remain exposed due to non-mandatory reporting standards and fragmented water reuse policies. As a result, the environmental footprint of digital infrastructure continues to grow unchecked. Thirdly, many products are still designed for disposal rather than repair or reuse. Permanent joining techniques make compronent recovery economically unviable, institutionalising waste. At the same time, high-volume waste streams such as absorbent hygiene products, which

account for up to 10% of residual household waste, remain entirely outside binding circular economy frameworks and targets. In the food sector, the absence of a harmonized, digital labeling system prevents consumers from accessing transparent metrics on environmental and social impacts, leaving them vulnerable to greenwashing. Moreover, public procurement, which represents approximately 14% of EU GDP, remains underutilized as a driver of circularity, with fewer than 8% of tenders explicitly incorporating circular criteria. In construction, low-carbon materials face slow approval processes and unstable demand, and as a result, conventional, high-emission materials are still the default. Logistics networks across the EU are designed primarily for one-way distribution rather than circular flows. Due to the lack of centralized resource planning, vacant public buildings often remain underutilized during natural disasters, which is a critical gap in circular disaster preparedness. Lastly, circular economy implementation is weakest in peripheral and transition regions, where limited university-industry collaboration, fragmented funding access, and insufficient technical capacity constrain the diffusion of circular practices. Local business ecosystems often lack EU-level platforms to share knowledge, build short supply chains, and access coordinated green transition support. Without structured knowledge transfer and workforce development, circularity risks remaining a policy ambition disconnected from economic reality.

Taken together, these failures reflect not a lack of circular economy solutions, but a systemic failure to scale them.
The proposals from Panel 2 that follow address each of these barriers through targeted, legally grounded interventions — from differentiated readiness frameworks and mandatory procurement standards to circular logistics hubs and university-led regional innovation alliances — with the shared goal of embedding circularity into the structural fabric of the European economy.

Policy Proposals 1-12

1. Helping SMEs Go Circular: Tailored Roadmaps and Automatic Funding Based on National Readiness

Despite ambitious targets under the European Green Deal, recycling rates vary from 12% to 69% across Member States, with SMEs—99% of EU businesses—facing disproportionate barriers in accessing circular economy funding.

We recommend that the European Commission establish a Differentiated Readiness Framework under Articles 175 and 173 TFEU. This would introduce standardized national readiness assessments, assigning Member States to four transition levels: Emerging (basic capacity-building), Developing (infrastructure development), Advanced (innovation focus), and Leading (best practice dissemination). Tailored Circular Economy Transition Roadmaps would be integrated into the European Semester, with an Automatic Circular Economy SME Access Facility triggering simplified funding disbursement once countries reach the Developing level—moving beyond the current EuroAccess portal complexity to direct financial support.

This framework fills a critical policy gap: while Articles 175 and 173 support industry and regional development, no mechanism currently adjusts implementation timelines or funding access based on national capacity, ensuring more equitable and effective circular transition.

2. **Greening AI Infrastructure: Mandatory Water-Efficiency Standards for EU Data Centers**

Despite the constitutional mandate for environmental and natural resource protection under Articles 191 and 192 TFEU, a regulatory gap remains, which leaves water-scarce regions like Spain and Italy vulnerable. Current EU frameworks like 2000/60/EC, reporting on Water Usage Effectiveness (WUE) and the „Water Efficiency First“ (2025) recommendation, remain non-mandatory. To address this, we propose that the European Commission integrate a Europe-wide licensing framework for data centres into the upcoming Water Resilience Strategy to reduce water consumption. This framework could mandate closed-loop cooling technologies (e.g., liquid and immersion cooling) and expand current regional planning requirements into a full Life Cycle Assessment (LCA). We recommend emphasizing the importance of water indicators within the LCA assessment criteria, presenting both the results and the quality of the model, and encouraging technological innovation. The European Commission might also provide tools and data on building materials and the properties of the resources used, which are required for the LCA model.

3. **Reducing the Residual Waste: Extending Producer Responsibility to Absorbent Hygiene Products (AHP)**

The European Commission could establish an EU-wide EPR scheme for absorbent hygiene products (AHP), notably baby and adult nappies, under Articles 191–192 TFEU and the Waste Framework Directive by 2028. Producers placing nappies on the EU market would be required to finance separate collection, transport, and treatment, prioritising recycling over disposal, which is currently the main route for this waste stream and accounts for up to 10% of residual household waste. Existing facilities, such as the FaterSMART plant in Italy and Pampers pilots in the Netherlands, demonstrate the feasibility of high-quality recycling, recovering plastics and cellulose for the circular bioeconomy. The Commission should set progressively more ambitious binding targets, aiming for 90% AHP separate collection by 2040, and require harmonised reporting to the European Environment Agency on quantities placed on the market, separately collected and recycled. This proposal would turn a “dirty” waste stream into a strategic resource.

4. **From Reaction to Prevention: Using Circular Resource Planning in EU Disaster Preparedness**

Natural disasters in the EU often cause disproportionate damage due to poor preparedness rather than the intensity of the events themselves, as demonstrated by coordination failures during Cyclone Harry. Many regions struggle to quickly provide safe accommodation for people, despite vacant public buildings. To address this, we propose that the EU introduce a mandatory register of vacant buildings that are suitable for emergency use under the legal basis of Article 196 TFEU. This initiative requires Member States to conduct regular national audits and report these facilities in a shared European database. It would enable rapid identification of suitable shelter spaces by civil protection authorities, ensuring optimal utilization of existing infrastructure in line with CEAP. EU funding will support pre-retrofitting these facilities with modular materials, enabling conversion into housing within 48 hours. The register could be integrated into the EU Civil Protection Mechanism, contributing to the objectives of the New European Bauhaus by reusing existing buildings.

5. **Design for Repair: Making Products Easy to Disassemble Under the ESPR Directive**

Modern products often use permanent joining methods, such as industrial glues, which make repairs and component recovery technically difficult and economically unviable, thereby institutionalizing waste. The European Commission should amend the Ecodesign for Sustainable Products Regulation (ESPR) to establish a mandatory Disassembly Performance Index (DPI) as a market-access requirement by 2030. This index mandates that core components must be accessible and removable by a professional within a product-specific Time-to-Access (TTA) threshold, calculated based on category-specific modularity benchmarks. Products must allow for non-destructive

disassembly and safe reassembly using standard, non-proprietary tools. Items failing to meet these category-specific TTA benchmarks will be denied the CE mark, excluding them from the European Single Market. By transforming disassembly from an optional choice into a structural requirement for market entry, this policy forces the "designing out" of waste at the source and ensures long- term resource efficiency across all Member States.

6. **Cleaner Construction: Faster EU Approval and Procurement of Low-Carbon Materials**

The European Commission should launch the EU Low-Carbon Construction Procurement & Approval Accelerator to scale low-carbon cement and steel by 2028. It would require all public contracts over €20 million to meet strict embodied CO_2 limits, apply life-cycle costing, and a regulatory sandbox to fast-track pre-certified low-clinker mixes. Through simplification of the approval procedure and avoidance of repeated testing, the scheme will make it easier to adopt low-carbon materials.

The policy addresses current market failure: due to perceived legal certainty and lower upfront costs, conventional concrete remains the default. By using the EU's public procurement spending, the Accelerator will convert low-carbon options into predictable demand, optimising industry uptake.

Legally grounded in the Construction Products Regulation (2024/3110) and the EPBD (2024/1275), and aligned with the 2026–2029 CPR Working Plan, it ensures harmonized technical standards. The goal is to reach 90% low-carbon concrete volume use in eligible projects by 2040, supported by transparent EEA monitoring and iterative benchmark updates.

7. **Connecting Local Economies: A European Platform for Stronger Local Business Ecosystems**

Small and medium-sized enterprises (SMEs) are the backbone of Europe's industry and economy. The EU already funds initiatives that strengthen cross-border cooperation and sustainable business growth. For instance, COREnet and Bio-Districts under the CAP 2023–2027, aligned with Articles 173 and 175 TFEU, the EU's 2026 shift toward "Strategic Autonomy" and the Clean Industrial Deal. However, there is still no existing EU-level network that directly connects local producers or helps regions build strong circular supply chains. Thus, we propose that the European Commission establish a European Network for Local Production and Short Supply Chains, a non-profit, public-private, autonomous platform open to rural and urban companies engaged in local manufacturing, processing, and distribution. This network would promote knowledge, experiences and best practices exchange, create opportunities for companies to showcase locally produced goods and services, develop new markets, and benefit from coordinated support in areas like green transition, digitalization and logistics.

8. **From Rain to Resource: A European Framework to Capture, Reuse, and Value Urban Rainwater**

As the 2027 deadline for implementing the Water Framework Directive approaches, 34% of the EU population continues to suffer from water stress. Under Article 192 TFEU and the 2026 Water Resilience Strategy, the Commission is mandated to adopt environmental standards. Although Regulation (EU) 2020/741 addresses water reuse, its optional nature and the lack of harmonized EU policies for rainwater leads to a critical gap. We propose that the European Commission establish an EU framework for rainwater harvesting and urban non-potable water reuse. This framework could set quality standards for urban non-potable and industrial applications, introduce safety protocols to ensure harvested rainwater and reused water meet public health standards in reclaimed water and require Member States to integrate these systems into urban master plans. Furthermore, the Commission should support implementation through dedicated funding and encourage Member States to apply reduced VAT rates and incentive principles to rainwater harvesting equipment and infrastructure, under the Water Resilience Strategy.

9. Scan Before You Buy: An EU-wide Sustainability Food Labelling System

According to the Farm to Fork Strategy, food labelling is identified as a prioritized domain for the creation of sustainable food environments. Under the Articles 114 and 169 TFEU, the EU has the mandate to harmonize the internal market and protect consumers from misleading information and greenwashing practices. The Digital Product Passport (DPP) will provide product-specific data accessible throughout the value chain, however, it does not include food products. Thus, we propose that the European Commission creates a mandatory and harmonized front-of-package sustainability QR-code for food products to have access to a digital color-coded dashboard with metrics about the 3 dimensions of sustainability: environmental, social and economic. This dashboard would be based on the Product Environmental Footprint (PEF), a validated methodology to analyze the environmental impacts of a product over its life cycle, by including several impact categories, such as climate change, ozone depletion, land use or water use.

10. Mandatory Green Procurement: Boosting Industrial Circularity

Public procurement represents around 14% of the EU's GDP, yet it remains underused in advancing circular economy goals. The European Commission's 2022 Green Public Procurement Monitoring Report found that only 27% of public tenders include environmental criteria and fewer than 8% explicitly apply circularity measures. Because the Green Public Procurement framework is voluntary, implementation remains uneven across Member States and progress has been limited. Under Article 114 TFEU, we propose that the European Commission establishes a mandatory EU Circular Public Procurement Accelerator through a revision of Directive 2014/24/EU by 2026. From 2028, infrastructure and industrial contracts above €20 million would apply lifecycle costing, include at least 20% recycled or reused content, integrate lifecycle carbon performance into award criteria and submit circularity reports. Linked to the ESPR, products with a Digital Product Passport could receive a "Circular Bonus" in tender evaluations, supporting strategic autonomy and the Circular Economy Action Plan.

11. Circular Logistic Hubs: Reducing Waste in EU Supply Chains

Europe's transition to a circular economy is constrained by freight systems designed for linear flows. While product policies advance circularity, logistics networks still prioritize one-way distribution over return, repair, and reintegration. The TEN-T Regulation already provides a foundation for change by requiring multimodal freight terminals in designated Urban Nodes. This proposal leverages that framework by redefining these nodes as Circular Logistics Hubs. TEN-T Urban Nodes should integrate reverse-logistics consolidation, repair and refurbishment facilities, and shared warehousing for secondary materials, alongside strong rail and inland waterway connections. Standardized digital tracking of material flows should support efficient sorting, certification, and reintegration into supply chains. By embedding circular functions directly into TEN-T infrastructure planning and funding, the EU can transform existing logistics nodes into enablers of closed-loop systems while reducing freight emissions, improving resource efficiency, and strengthening supply chain resilience.

12. The Territorial Circular Innovation Alliance: University Partnership for Circular Innovation in Regions

Circular Economy (CE) implementation remains uneven, constraining socioeconomic transformation in peripheral and transition regions. Under Articles 179-180 TFEU, we propose the TCIA: a structured university network coordinated by the EIT within Horizon Europe to reinforce CE innovation and assimilation, leveraging existing funding instruments, including InvestEU. The TCIA connects leading universities with regional institutions via Erasmus+ funded curriculum support, joint degrees, doctoral networks and mobility schemes. By leveraging cohesion funds, specifically the ERDF's I3 instrument, the Alliance establishes shared research infrastructures and applied collaborative R&D hubs. These ecosystems foster collaboration between SMEs, industrial clusters and students, enhancing CE knowledge diffusion and workforce development. EIT-labelled programmes, executive education, scholarships, and industrial doctorates further align human capital with regional labor market needs. Utilizing the Triple Helix Model of Innovation and work-integrated learning while maintaining institutional autonomy, the TCIA mitigates structural disparities to ensure an efficient, equitable European transition.