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Editorial: Global excellence in sustainability: Europe

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Editorial on the Research Topic Global excellence in sustainability: Europe

It is increasingly evident that sustainability challenges cannot be addressed in isolation. Global crises such as climate change ([Leal Filho et al., 2023a](#); [Pfenning-Butterworth et al., 2024](#)), biodiversity loss, resource depletion, and social inequality demand collaborative efforts that transcend borders and disciplines ([Leal Filho et al., 2024](#)). Scientific progress in sustainability depends not only on technological innovation, but also on cultural, social, and political perspectives that can guide transitions toward more just and resilient societies ([Fisher et al., 2022](#)). In recent years, research in Europe has provided valuable insights into these transitions, reflecting both ambitious policy frameworks and grassroots initiatives that seek to accelerate the move toward climate resilience and the energy transition ([Ribeiro et al., 2025](#)). Yet sustainability is a global endeavor, and comparative perspectives from other regions are indispensable to ensure that knowledge is transferable, adaptable, and inclusive.

Several themes have emerged as particularly urgent. Transformations in consumption and production patterns continue to expose the unsustainability of prevailing models, highlighting the need for systemic change ([Leal Filho et al., 2022](#); [Kazantsev et al., 2025](#)). Circular economy approaches are increasingly recognized as innovative pathways to reduce waste, enhance resource efficiency, and decouple growth from environmental degradation ([Ribeiro et al., 2025](#)). In parallel, climate change adaptation and resilience strategies are advancing, requiring the integration of technological solutions with governance structures and community-based approaches ([Leal Filho et al., 2025, 2023b](#); [Qudrat-Ullah, 2025](#)).

Social equity has become central to sustainability debates, underlining the importance of aligning environmental goals with social justice and inclusivity ([Törnblom et al., 2024](#); [Effiong, 2025](#)). Efforts to address inequalities, whether in access to resources, exposure to environmental risks, or participation in decision-making, are essential to ensure that sustainability transitions are fair and broadly supported ([Ribeiro et al., 2025](#); [López Cifuentes et al., 2026](#)). Finally, the reduction of dependence on non-renewable resources, the development of sustainable alternative materials, and the safe management of waste remain critical components of sustainable development agendas worldwide ([Dinis et al., 2023, 2022](#); [Leone et al., 2025](#)).

Considered together, these perspectives underscore the need of a holistic and interdisciplinary approach. Combining insights from the natural sciences, social sciences, and the humanities, and by fostering cooperation across regional and national boundaries, sustainability research can generate the transformative knowledge required to meet today's pressing environmental and societal challenges.

This Editorial introduces the Research Topic “*Global Excellence in Sustainability: Europe*,” which brings together empirical, conceptual and review contributions examining sustainability transitions across diverse European contexts, while also engaging with global and comparative perspectives. The collection addresses key dimensions of sustainability, including governance, social justice, circular economy practices, technological innovation and everyday consumption behaviors. The articles included in this Research Topic reflect a diversity of methodological approaches and disciplinary perspectives, and collectively aim to advance understanding of how sustainability challenges can be addressed in context-sensitive and inclusive ways.

Against this background, the contributions gathered in this Research Topic explore how these challenges are being addressed across different sectors, scales and socio-cultural contexts.

Siirilä and Salonen argue that humanity now faces a polycrisis, i.e., a set of interconnected social and ecological crises whose combined impact is greater than each on its own, and that a holistic, collective transformation is urgently needed to address it. The authors propose a new social contract, “Society’s Commitment to Sustainable Development,” which unites civil society, the private sector, the public sector and decision-makers around the 2030 Agenda for Sustainable Development to foster collaborative action at local, regional and global scales. They contend that each societal actor has distinct roles, from governance and innovation to advocacy and coordination, and that widespread commitment across sectors can drive substantive progress toward sustainability. The perspective highlights the necessity of inclusive engagement, systemic change and shared responsibility to navigate complex crises and build a sustainable future, emphasizing that humans not only cause but also have the power to transform these challenges.

Matti et al. present a novel methodological approach that integrates strategic foresight with sustainability transitions frameworks to explore how different forms of agency shape transition pathways for a sustainable EU 2050. Strategic foresight is a structured and systematic approach of exploring plausible futures to anticipate and better prepare for change. The findings reveal that successful transitions require balancing the agency of established institutional actors with emerging stakeholders who may lack formal authority but bring crucial perspectives and capabilities. The study emphasizes the importance of agency of multiple actors in sustainability transitions, highlighting their capacity to act and collaborate in shaping a sustainable future. This study stresses the need for a strong government leadership, multilevel coordination, the roll-out of systemic policy mixes and a new social contract underpinned by democratic governance.

Vasconcelos et al. use a systems thinking approach with causal loop diagrams (CLDs) to explore how employee

perceptions, attitudes, and behaviors toward organizational sustainability initiatives evolve over time. By integrating neo-institutional, sensemaking, and attribution theories with 46 prior studies and 50 qualitative data points, they identify two reinforcing feedback loops that either support or hinder engagement, and a balancing loop where increased knowledge and scrutiny can lead employees to become more critical. Initial symbolic sustainability efforts can foster early engagement, but this momentum may shift into a “vulnerability period” of frustration if perceived impacts fall short of expectations, following a “Fixes that Fail” pattern. The analysis challenges the simple positive/negative view of sustainability actions and suggests that sustaining long-term employee engagement requires consistent, impactful actions that “walk the talk.”

Colley et al. argue for a person-centered perspective on circular behaviors to advance circular economy transitions. The authors contend that while technical innovations and business models have dominated circular economy research, everyday behaviors of individuals and households, such as reducing consumption, extending product lifespans, repair and reuse, are central to achieving systemic change. They suggest that conceptualizing people merely as consumers obscures their broader roles and that behavioral research needs deeper theoretical development beyond traditional models like the Theory of Planned Behavior. The article outlines a future research agenda advocating systems-oriented approaches, refined typologies of circular behaviors, and interdisciplinary integration of behavioral theories to better understand the psychological, social and contextual drivers of behavior. This agenda aims to enhance policy and intervention design that supports meaningful shifts toward circular consumption and resource use.

Pencheva et al. investigate how United Kingdom (UK) citizens engage with household repair and maintenance of electrical and electronic equipment (EEE) as a key activity within the circular economy. Using a citizen science approach, the study collected nearly 6,000 survey responses and 473 detailed repair logs to explore attitudes, behaviors and barriers to repair, revealing a significant gap between consumer expectations of product lifespan and current legislation, alongside challenges related to cost, accessibility of repair services, and the availability of repair information and spare parts. The authors highlight the importance of supporting local repair economies, improving legislation such as statutory warranty periods and Right to Repair laws, and enhancing transparency around diagnostics and parts access. By fostering a stronger culture of repair, the work aims to inform policy and industry action to reduce electronic waste and advance sustainable consumption practices in the UK.

Dionizi et al. investigate how prepared Albanian consumers are to adopt circular economy practices, a key pillar of sustainable consumption in emerging economies. Drawing on a cross-sectional survey and structural equation modeling (SEM) in North Albania, the authors find that employment status, income and education significantly predict knowledge and engagement with circular practices, such as sufficiency-driven consumption and donation of goods, whereas motivational influences and

preferences have less predictive power. Their SEM results highlight that consumer knowledge and concrete behaviors are stronger determinants of readiness than abstract influences or preferences, underscoring persistent intention–behavior gaps in contexts with structural barriers like limited infrastructure and awareness. The study suggests that policy and business strategies in emerging economies should prioritize education and enabling environments to strengthen consumer readiness for circular economy adoption.

[Eg et al.](#) identify distinct consumer segments in Norwegian workplace canteens based on food choice motives and sustainability orientations. Using a mixed-methods approach with surveys and qualitative analyses, they classify three segments: one primarily driven by personal benefits, a second by a mix of personal benefits and animal welfare, and a third strongly motivated by sustainability concerns. The results reveal significant variations in how different groups prioritize food preferences, sustainable options and potential plant-based offerings, with implications for how canteens might tailor interventions to effectively promote sustainable consumption. The authors suggest that versatile strategies addressing diverse preferences could make canteens effective platforms for testing and encouraging sustainability interventions that might extend to households and wider society. This segmentation approach highlights the complex interplay between personal motives and green intentions in driving food-related sustainability transitions.

[Nifatova et al.](#) provide empirical insights into consumers' motives for choosing organic food and the role of the packaging. Based on a survey of 497 consumers in Ukraine, they found that there is no clear distinction between internal and external consumer motives in the perception of organic food—the packaging's organic quality is considered part of the food's organic quality. However, organic packaging can be an indicator of external consumer motives, because it is less related to health care and more to altruistic motives. Consumers who are driven by external motives may expect the product to be organic at all stages of its life cycle and they are more likely to rely on the producer's commitment to environmental responsibility. Organic producers should consider this in their marketing strategies to meet consumer expectations and avoid the risk of greenwashing. These findings help in the search for ways to improve mutual understanding between consumers and producers regarding shared responsibility for the environment.

The review article by [Toebast-Wensink et al.](#) analyses 100 empirical articles on predictors of sustainable fashion purchasing among consumer samples with and without purchasing experience. The review reveals that, amongst others, that habits occur more frequently as significant predictors for experienced consumers compared to general consumers; and experience can shift barriers into motivators. The authors conclude that experience should be highlighted as a transformative factor for sustainable fashion purchasing. Through gaining experiences, consumers' attitudes evolve and influence their decisions. It also emphasizes the potential of goal framing, suggesting that effective goal frames can encourage initial sustainable fashion purchases among general consumers. These findings are indicative for marketers and retailers: to effectively engage each group and enhance purchasing,

they should employ distinct tactics for first-time and experienced sustainable fashion consumers.

[Santala et al.](#) investigated the role of close social communities in implementing sustainable mobility behavior in Finnish households. Using a Climate Puzzle game, 12 households from Espoo, Finland, were engaged in discussions among household members about their daily mobility practices. The findings show that, within the framework of the existing infrastructure, people's close social community influences the way they relate to their surroundings. For example, grandparents were helped by giving them lifts and combining trips, young people were driven to leisure activities using carpooling, and so on. The authors conclude that design interventions toward sustainable mobility should target larger social communities rather than just individuals in order to achieve the 2.5 ton target. The study also indicates that socially tailored interventions and low-carbon solutions should be developed and targeted at city districts to help households create and maintain lifestyle changes.

[Bitzenis et al.](#) provide a systematic bibliometric analysis of how artificial intelligence (AI) and machine learning (ML) support production efficiency and sustainable development. Using the Scopus database and Bibliometrix R package, the authors map global research trends, key collaborations, and thematic advances in the application of AI and ML to optimize industrial processes, improve resource management, and reduce environmental impacts. They highlight the integration of AI with sustainable energy management, circular economy practices and precision agriculture as emerging fronts, and identify ethical considerations such as data privacy and labor-market implications as underexplored areas. The analysis reveals that research output is dominated by countries like China, the United States and the United Kingdom, whilst also emphasizing the need for deeper engagement with small and medium-sized enterprises (SMEs) and developing economies in future research. Overall, the review underlines the growing importance of AI/ML in advancing sustainable production.

The study by [Karimzadeh](#) examines the meanings and practices of ethical consumption in Iran. It is drawn on 19 in-depth qualitative interviews with urban residents in the midsized city of Urmia, Iran. Findings show that ethical consumption is conceptualized by consumers through human-centered values, such as care, responsibility, and generosity, rather than through environmentalism or formal regulation. For example, the avoidance of *heyf-o-meyl* (wastefulness and unnecessary consumption), practiced by participants, reflects values that are rooted in traditional and cultural teachings. These results contribute to the literature on sustainable consumption by highlighting culturally embedded, locally meaningful forms of ethical engagement that constitute a moral microeconomy.

The above-mentioned articles employ diverse methodological approaches to examine sustainability transitions across Europe while also drawing on global and comparative perspectives. Collectively, they advance knowledge on how governance frameworks, organizational dynamics, technological innovation and everyday practices shape pathways toward sustainability. Empirical studies from the United Kingdom, Finland, Norway,

Albania and Ukraine demonstrate how circular economy practices, sustainable mobility, food choices and consumer behavior are embedded in specific socio-economic and cultural contexts. Complementary conceptual and global analyses further deepen understanding of systemic challenges and opportunities, particularly regarding institutional change, behavioral dynamics and digital innovation. Importantly, the inclusion of evidence from Iran broadens this collection by illustrating how ethical consumption is shaped by culturally embedded values beyond European contexts, strengthening the comparative dimension of the Research Topic. Overall, the contributions underscore the urgency of context-sensitive, participatory and interdisciplinary approaches to support just and resilient sustainability transitions within Europe and beyond.

Author contributions

MD: Conceptualization, Project administration, Supervision, Writing – original draft, Writing – review & editing. ES: Writing – original draft, Writing – review & editing. NK: Writing – original draft, Writing – review & editing.

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