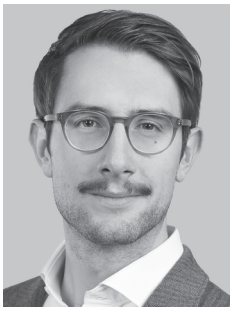
Editorial to the Special Issue

Exploring the Circular Economy – Pathways to a Sustainable System within Planetary Boundaries



Fabian Takacs, Manuel Braun and Karolin Frankenberger

While developing the call for papers for this special issue of the Swiss Journal of Business, we wrote the following:

At a time characterized by unprecedented environmental challenges, the concept of a circular economy (CE) epitomizes systemic change with real ecological impact. Due to increasing pressure to act, environmental sustainability has witnessed a surge in visibility within both corporate strategy and communication as well as political agenda setting and discourse. Yet, the magnitude of contemporary human activities in crossing planetary boundaries remains unparalleled. A profound gap persists between awareness, intention, and action, both individually and collectively.

Many in politics and business talk about the CE. But what exactly is it, and why has so little been implemented despite the pressing urgency to transition towards a sustainable system within planetary boundaries? This special issue is dedicated to these questions. It aims to show how it can be successfully put into practice, the role of academia, and what it takes to achieve the circular transition. The CE aims at designing and implementing an alternative economic system that creates and captures value within planetary boundaries (Desing et al., 2020; Geissdoerfer et al., 2017; Kirchherr et al., 2017; Korhonen et al., 2018). At its core, the CE seeks to reduce the overall throughput of natural resources in the 'industrial metabolism' (Ayres, 1997), while maintaining material value, maximizing resource utilization, and promoting the restoration of natural systems (Bocken et al., 2016; Centobelli et al., 2020; Morseletto, 2020; Urbinati et al., 2017). The transition to a CE is not only a fundamental 'sustainability transition' (Markard et al., 2012), it also requires a reorientation of current socio-technical regimes (Geels, 2002; Kemp et al., 1998; Markard et al., 2012) towards the implementation of circular strategies, also called R-strategies—such as recycling, repurposing, refurbishing, remanufacturing, repairing, reusing, reducing, rethinking, and refusing. Applying these

strategies not only mitigates environmental impact but also strengthens economic performance through the potential to improve business impact through novel business models, customer value, and supply chain resilience. This shift has far-reaching implications and is shaped by factors on different levels, from product, business, ecosystem, industry, regulation, to society. This covers wage structures, skill levels, business models, mindsets and consumer behaviour, and the prevailing cultural paradigm (Desing et al., 2020; Frankenberger et al., 2021; Takacs et al., 2022). However, even though the last years witnessed an increase in companies integrating CE practices, adoption of regulatory frameworks, and a rise in consumer awareness, the transition to the CE is still slow and fragmented (Circle Economy, 2025).

In response to this challenging context, this special issue consists of eleven articles, four full-length research articles and seven short contributions, all of which address the transition towards a CE from various perspectives. These perspective articles aim to grasp the systemic complexity of the transition to a CE through a combination of both theoretical approaches and practical insights. In doing so, the contributing authors succeed in highlighting the necessity of this transition as well as its practical implementation from various disciplinary perspectives. It quickly becomes evident that this transition has implications for multiple disciplines, each characterized by distinct research traditions and practical relevance, necessitating their adequate representation. All articles in this special issue share a common aim: to reflect and discuss the systemic complexity and far-reaching implications of the transition towards a CE.

The contributions can be grouped into *three thematic clusters*. First, a set of articles addresses the systemic complexity and challenges of the transition from a comprehensive, theoretical as well as practical perspective. Second, a normative strand explores the purpose of business including ethical and sufficiency-driven considerations. Third, several contributions examine the entrepreneurial perspective on the transition, focusing on specific domains of business practice such as marketing, product design, and supply chains. Across all contributions, we have aimed for balance between theoretical approaches and practical insights, to offer readers a rich and engaging experience.

In the first cluster of articles, the guest editors of this special issue—*Takacs*, *Braun*, and *Frankenberger*, together with *Wehinger*—present a systemic approach to identifying transition barriers across multiple relevant levels, including product, firm, ecosystem, industry, and society/regulatory systems. In their lead article, they not only map these barriers but also provide insights into eight underlying mechanisms that help explain how these barriers function and hinder the transition of the socio-technical regimes. Building on this framework, they offer practical examples of how such mechanisms can be disrupted to accelerate the transition across all levels—primarily through various forms of collaboration. This article serves as a conceptual overview and foundation for the diverse perspectives addressed by the authors in the remainder of this special issue.

This article is followed by three short perspective articles that illustrate the systemic perspective outlined in the lead article: an exploration of the limitations of a closed Earth system, practical examples from the context of cities, and insights from practitioners in the chemical industry. The first one of these, by *Desing*, emphasizes that a CE must operate within planetary boundaries in order to safeguard the long-term agency of humanity. Drawing from a systemic and biophysical perspective, the author addresses the resulting implications for the economic system and shows that circularity is not a panacea and

needs to be applied strategically to contribute effectively to planetary well-being. Thereby, the R-strategy 'rethinking' emerges as the most influential one. The second, by *Schuppler* and *Kirchherr*, examines how mid-sized European cities can act as key drivers of the CE by leveraging political support, urban planning, and cross-sector collaboration to implement circular strategies and inspire broader systemic change. The third, by *Schaffrannek* and *Schmidt*, highlights the (systemic) challenge faced by the chemical industry—exemplified by the company case of BASF—in shifting from fossil-based to bio-based and recycled raw materials, and illustrates how the barriers and dilemmas discussed in the lead article can be addressed and overcome. Their contribution outlines a transformative vision centered on the use of alternative feedstocks, the development of ecosystems, and the promotion of collaborative approaches. They emphasize the role of thinking in new ecosystems and scaling digital solutions as enablers of the CE.

The second cluster is introduced by a conceptual research article led by *Björck*, *Pregmark*, *Brandin* and *Schoch* which explores the strategic and systemic role of corporate purpose in the context of the CE. They position purpose as a normative, strategic and systemic driver of organizational transformation, illustrating how it can enable CE through value-driven collaboration and proposing a research agenda to explore its mechanisms, risks, and potential impact. Thereby, they distinguish corporate purpose from related constructs like CSR and develop a multidimensional framework for understanding purpose and its role in embedding circularity at the organizational and ecosystem level. In a short perspective article, *Kirchschlaeger* examines the conceptual and ethical compatibility between the CE and human rights, arguing that a CE can significantly contribute to the protection and realization of fundamental rights—especially in the face of environmental crises. To avoid new human rights violations through CE strategies (e.g., child and forced labor), the author pushes for a robust ethical framework such as 'Just Transition' to provide ethical guidance. This approach advocates for a mutually reinforcing tandem of CE and human rights promoting both environmental sustainability and social justice. The second perspective article in this cluster comes from *Leinonen* and *Lappalainen*, who connect the conclusions of the first cluster—such as respecting planetary boundaries and addressing systemic challenges—with a call for greater internalization of economic responsibility and ethical considerations in business through the adoption of sufficiency strategies. They offer a critical perspective on the CE through a post-growth lens. Central to their argument is a critique of the CE paradigm, prominent during the 2010s, which advocates for the decoupling of economic growth (i.e., monetary value creation) from material throughput (e.g., Ellen MacArthur Foundation, 2013, 2015)—a concept they argue is neither empirically substantiated nor conceptually coherent. In response, they call for the integration of sufficiency in the concept of CE, emphasizing the relevance of the R-strategies 'refusing' and 'reducing' to effectively lower overall material throughput in production and consumption.

The third cluster of articles focuses on the practical implementation of the CE within businesses. The first one, by *Wiesner* and *Größler*, presents a systematic literature review that critically examines the concept of CE through the lens of general management and operations and supply chain management. They identify several critiques of the CE concept, such as its strong emphasis on efficiency (e.g., danger of rebound effects) and the limited technological feasibility of circular designs. Based on their categorization of different types of criticism, the authors conclude—consistent with the insights from the first

and second cluster in this special issue—that there is a need for strong interdisciplinary collaboration to critically address deeper structural limitations and to question the often overly universal framing of CE as a one-size-fits-all solution. In a perspective contribution from practice, *Pfletschinger*, *Stölzle*, and *Kreimeyer* then delve deeper into product design, identifying key challenges and proposing solutions based on interviews with manufacturing experts from the DACH region. They highlight central concepts at the intersection of the product and business models level—such as modularity, upgradeability, longevity, and material specifications—that support circularity. To fully unlock the potential of the CE, the authors argue for a holistic, system-based design approach, supported by digital tools and life cycle assessments from the early stage of product development. In another perspective article from practice, *Gerhardt* uses the example of the chemical industry to illustrate why it is crucial for Europe to engage with the CE in practice. He argues that, especially considering the European chemical industry's loss of relevance compared to competitors in Asia—due to high energy costs and regulatory burdens—the CE is a key strategic lever. The transition toward circularity holds great potential, particularly if existing chemical sites can become central hubs for processing post-consumer materials and enabling circular value chains. Achieving this requires short-term efficiency gains, long-term investment in renewables and automation, and coordinated action across industry, politics, science, and society. This cluster of articles is completed by a research article of *Gisler* and *Gollnhofer*, who examine the CE from a marketing perspective. The authors investigate the critical role of influencers and their marketing activities in promoting R-strategies such as recycling, repairing, reusing, and reducing. The focus lies on the business models adopted by these sustainability-oriented influencers and their impact on the CE transition. Based on qualitative interviews and a netnographic analysis, the authors identify three distinct business model types: educational advocates, lifestyle marketers, and change leaders. Their contribution concludes this special issue by offering a consumer- and marketing perspective.

This special issue provides a comprehensive overview of the potential and limitations of the CE and offers both theoretically grounded and practice-oriented approaches and examples of how the transition toward CE can be addressed—and ideally accelerated. A central theme that emerges across all contributions is the critical importance of collaboration.

Given the high degree of fragmentation and spatial separations of value creation processes today (because of former globalization processes), as well as the disconnection of value creation and value capture driven by the linear pattern of 'take-make-use-dispose', the articles in this issue demonstrate that **collaboration** holds significant potential for sustainably closing resource loops and reducing the material throughput within the industrial metabolism. As readers will see, collaboration can take many forms across various levels (product, business, ecosystems, etc.), ranging from personal interaction and cooperation among value chain actors, to digital platforms and marketplaces that enable circular strategies for different partners, to alliances that share infrastructure or data, to coalitions that share a collective voice to improve policy-driven incentives promoting (sustainable) behavior, and even to cooperation among competitors. Ultimately, the articles in this special issue make it clear that circular entrepreneurs must understand their circular business models as embedded within a system of diverse actors across multiple levels.

The engagement with this topic shows that circular business models alone are not enough: together, it requires decisive action by politics, society, and industries, working together to ensure that circular value propositions become economically viable and evolve into dominant practices and offerings in the market. To ensure the long-term success of these circular business models, they need to actively engage with and influence their broader environment—in line with the concept of boundary-spanning activities known from business model research. It is time to move out of the niche and change the political, regulatory, and societal frameworks so that circularity becomes dominant in socio-technical regimes—for companies as well as for society. Only then can it be possible to overcome the many dead ends and dilemma situations that currently exist in today's linear economy system.

Literature

Ayres, R. U. (1997). Industrial Metabolism: Work in Progress. *INSEAD Working Paper Series*.

Bocken, N. M. P., Pauw, I. De, Bakker, C., & van der Grinten, B. (2016). Product design and business model strategies for a circular economy. *Journal of Industrial and Production Engineering*, *33*(5), 308–320. https://doi.org/10.1080/21681015.2016.1172124

Centobelli, P., Cerchione, R., Chiaroni, D., Del Vecchio, P., & Urbinati, A. (2020). Designing business models in circular economy: A systematic literature review and research agenda. *Business Strategy and the Environment*, *29*(4), 1734–1749. https://doi.org/10.1002/bse.2466

Circle Economy. (2025). *The Circularity Gap Report 2025*. https://www.circularity-gap.world/2025

Desing, H., Brunner, D., Takacs, F., Naharath, S., Frankenberger, K., & Hischier, R. (2020). A circular economy within the planetary boundaries: Towards a resource-based, systemic approach. *Resources, Conservation & Recycling*, *155*.

Ellen MacArthur Foundation. (2013). *Towards the Circular Economy: Economic and business rationale for an accelerated transition*. http://onlinelibrary.wiley.com/doi/10.1162/108819806775545321/abstract

Ellen MacArthur Foundation. (2015). *Growth within: A Circular Economy vision for a competitive Europe*.

Frankenberger, K., Takacs, F., & Stechow, R. (2021). A step toward making your company more sustainable. *HBR.Org*. https://hbr.org/2021/01/a-step-toward-making-your-company-more-sustainable

Geels, F. W. (2002). Technological transitions as evolutionary reconfiguration processes: A multi-level perspective and a case-study. *Research Policy*, *31*, 1257–1274.

Geissdoerfer, M., Savaget, P., Bocken, N. M. P., & Hultink, E. J. (2017). The Circular Economy – A new sustainability paradigm? *Journal of Cleaner Production*, *143*, 757–768. https://doi.org/10.1016/j.jclepro.2016.12.048

Kemp, R., Schot, J., & Hoogma, R. (1998). Regime shifts to sustainability through processes of niche formation: The approach of strategic niche management. *Technology Analysis and Strategic Management*, *10*(2), 175–198. https://doi.org/10.1080/09537329808524310

Kirchherr, J., Reike, D., & Hekkert, M. (2017). Conceptualizing the circular economy: An analysis of 114 definitions. *Resources, Conservation and Recycling*, *127*, 221–232. https://doi.org/10.1016/j.resconrec.2017.09.005

Korhonen, J., Honkasalo, A., & Seppälä, J. (2018). Circular Economy: The concept and its limitations. *Ecological Economics*, *143*, 37–46. https://doi.org/10.1016/j.ecolecon.2017.06.041

Markard, J., Raven, R., & Truffer, B. (2012). Sustainability transitions: An emerging field of research and its prospects. *Research Policy*, *41*, 955–967. https://doi.org/10.1016/j.respol.2012.02.013

Morseletto, P. (2020). Restorative and regenerative: Exploring the concepts in the circular economy. *Journal of Industrial Ecology*, *24*(4), 763–773. https://doi.org/10.1111/jiec.12987

Takacs, F., Brunner, D., & Frankenberger, K. (2022). Barriers to a circular economy in small- and medium-sized enterprises and their integration in a sustainable strategic management framework. *Journal of Cleaner Production*, *362*, 132227. https://doi.org/10.1016/j.jclepro.2022.132227

Urbinati, A., Chiaroni, D., & Chiesa, V. (2017). Towards a new taxonomy of circular economy business models. *Journal of Cleaner Production*, *168*, 487–498. https://doi.org/10.1016/j.jclepro.2017.09.047