

Session theme – Forum Innovation 2025

Systemic links between eco-innovations and the Circular Economy

Names and institutions of the session' chairs:

Sugey de J. López, Department of Financial Economics and Accountability, University of Santiago de Compostela

Ángeles Pereira, Department of Applied Economics, University of Santiago de Compostela

Xavier Vence, Department of Applied Economics, University of Santiago de Compostela

Marie-France Vernier, Pole Finance, Accounting & Economy, ESDES, Université de Lyon

Description of the theme:

The transformative and systemic change implied by the circular economy paradigm requires the combination of multiple innovations in different areas. The intention to modify the dominant production and consumption model in the interests of sustainability requires technological and non-technological changes in products and processes, but above all in the ways of interacting with them, in the organisation of value chains and in the social practices that give meaning to artefacts (Korhonen et al., 2018; Genovese & Pansera, 2020).

Technological innovation, particularly eco-innovations, plays a crucial role in advancing circular economy practices and driving society's transition toward sustainability (de Jesús et al., 2018; Vence, Pereira & Laperche, 2022). The reduction of environmental impacts through the development and implementation of technological eco-innovations is undoubtedly a first step towards a more sustainable model (Korhonen et al., 2018; Mendoza et al., 2017). However, its role in the circular economy, as a catalyst or, on the contrary, the rebound or undesired effects to which the massive diffusion of eco-innovations such as renewable-based technologies and eco-efficiency can give rise, is still unclear (Korhonen et al., 2018; Vernier, 2024). Some of the questions that can be answered are: to what extent do eco-innovations contribute to realising the principles of CE? What are the tensions between eco-innovation and CE?

Circular and sustainable business models are also one of the key factors in promoting the circular economy. The way value is created, captured and distributed in the circular economy can involve minor to major changes in the organisation of companies and value chains. Business models are considered to play a catalytic role in the circular economy, as they can not only channel eco-innovations to the market but also alter production and consumption patterns (Bocken et al., 2016; Vence & Pereira, 2018). Along these lines, further research can be done on how the incorporation of CE principles alters different components of business models, from the value proposition to the organisation of the value

chain or customer relations. It is also of interest to see how the adoption of circular principles gives rise to new business ecosystems, stakeholder engagement and value co-creation, as well as to governance innovations in business ecosystems.

Another area of innovation needed for CE is policy. The traditional dispute between the effectiveness of regulatory and market-based instruments to promote eco-innovation is overtaken by the advent of a new evolutionary policy approach, capable of addressing the complex and systemic challenges of transforming the economic model (Nill & Kemp, 2009). Several aspects may be of interest in this research line: in particular, the relevance and effectiveness of policy packages / policy mix to achieve transformative change, the usefulness of instruments such as public procurement to promote circularity, or even the innovation in key economic policies, such as fiscal or monetary policy, to guide systemic change (Vence & López Pérez, 2021). Another interesting question is to use the socio-technical analysis approach to understand the role performed by different agents, from companies to governments, in supporting systemic changes to the transition to a more sustainable society (Ayoub & Geels, 2024).

The session welcome papers on the following topics:

- Eco-innovation as a catalyst for the circular economy
- Paradoxes between eco-innovation and the circular economy
- The role of services in the relation between eco-innovation and the circular economy
- The role of DPP in supporting system innovation towards the Circular Economy
- Emergence, configuration and governance of circular business ecosystems
- Effectiveness of single policies and policy packages for achieving circular economy outcomes
- Developments in socio-technological systems towards the circular economy
- Obstacles to the circular economy: infrastructure, technology, socioeconomic aspects, policy

References:

Ayoub, M., & Geels, F. W. (2024). What happens after positive tipping points? A socio-technical analysis of acceleration and deceleration in solar-PV diffusion in Germany and the UK. *Technological Forecasting and Social Change*, 207, 123642. <https://doi.org/10.1016/j.techfore.2024.123642>

Bocken, N. M. P., De Pauw, I., 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 <https://doi.org/10.1080/21681015.2016.1172124>

De Jesús, A., Antunes, P., Santos, R., Mendonça, S. (2018). Eco-innovation in the transition to a circular economy: An analytical literature review, *Journal of Cleaner Production*, Volume 172, 2999-3018, <https://doi.org/10.1016/j.jclepro.2017.11.111>.

Genovese, A. & Pansera, M. (2020): The Circular Economy at a Crossroads: Technocratic Eco-Modernism or Convivial Technology for Social Revolution?, *Capitalism Nature Socialism*, DOI: 10.1080/10455752.2020.1763414

Korhonen, J., Nuur, C., Feldmann, A., & Birkie, S. E. (2018). Circular economy as an essentially contested concept. *Journal of Cleaner Production*, 175, 544

Korhonen, J., Honkasalo, A., & Seppälä, J. (2018). Circular Economy : The Concept and its Limitations. *Ecological Economics*, 143, 37 <https://doi.org/10.1016/j.ecolecon.2017.06.041>

Mendoza, J. M. F., Sharmina, M., Gallego-Schmid, A., Heyes, G., & Azapagic, A. (2017). Integrating backcasting and eco-design for the circular economy : The BECE framework. *Journal of Industrial Ecology*, 21(3), 526

Pereira, Á. (2023). Modelos de negocio para la transición a la economía circular: estrategias circulares, potencial transformador y limitaciones. En Vence, X. Economía Circular Transformadora y Cambio Sistémico. Fondo de Cultura Económica, pp. 207 - 238.

Vence, X.; López Pérez, S. d.J. (2021). Taxation for a Circular Economy: New Instruments, Reforms, and Architectural Changes in the Fiscal System. *Sustainability*, 13, 4581. <https://doi.org/10.3390/su13084581>.

Vence, X.; Pereira, A. (2018). Eco-innovation and Circular Business Models as drivers for a Circular Economy. *Contaduría y Administración. Especial Innovación* - e64.

Vence, X., Pereira, A. and Laperche, B. (2022). Overcoming the Circular Economy Paradox through Innovation: Pitfalls in the Transition Pathways. *Journal of Innovation Economics & Management*, No 39(3), 1-13. <https://shs.cairn.info/journal-of-innovation-economics-2022-3-page-1?lang=en>.

Vernier, M.-F. (2024). *Eco-Design and Ecological Transition. Questioning the Economic Model*. ISTE Ltd. <http://www.iste.co.uk/book.php?id=2099>

Submit your communication proposal by April, 30, 2025: <https://foruminnov25.univ-littoral.fr/en/submit/>