

## **Sustainable Innovation 2025**

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***Past, Present and Future***

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## **Navigating Institutional Complexity with Design to Drive Interdisciplinary Circular Futures.**

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This chapter addresses the theme, “*Innovation Cultures and Networks*”, presenting a case study of the Edinburgh Futures Institute (EFI) at the University of Edinburgh and its approach to fostering institutional leadership for circular and sustainable futures. It reflects on ways in which EFI is redefining innovation cultures by synthesising interdisciplinary collaboration, systems-thinking, and entrepreneurial methodologies.

The case study builds on insights from a series of “thinking aloud” events, which brought together academia, industry, and public audiences to identify challenges and co-create pathways for change. These events served as platforms for exploring foundational research frameworks that bridge areas of complexity, enabling the formulation of transdisciplinary practices for the circular economy. EFI’s approach emphasises design-led methods and an entrepreneurial mindset as catalysts for innovation.

By advocating for a non-linear approach to organisational strategy, this study examines tools and techniques developed by EFI’s Innovation Services Team, the Edinburgh Earth Initiative, and Strategic Business Development teams. It argues that addressing collective research and innovation challenges requires academics to move beyond their specialized knowledge bases. Instead, all participants must feel empowered to contribute, share, and align around shared values of innovation. This commitment extends to fostering transdisciplinary collaboration but begins with re-examining internal organisational pipelines to create the conditions for transformative change.

The methods presented are emergent, lived, and reflective of real-time analysis of workshops and frameworks developed to navigate institutional complexity. This approach adopts systems-thinking as a flexible strategy for responding to new knowledge forms and evolving challenges. It positions design communities as key drivers of innovation, demonstrating how they can lead intersections of subject expertise and drive the creation of new narratives across science, engineering, and the humanities. By doing so, the case study illustrates how an ecosystem approach can achieve early Technology Readiness Level (TRL) outputs and provoke industry engagement through forward-thinking prompts.

Beyond emphasising impact outputs, this study foregrounds process-oriented practices, asking what new organisational agendas are needed to lead circular innovation cultures. It explores how strategic design efforts can advance shared opportunities, enabling institutions to adapt to global sustainable challenges. EFI’s emphasis on interdisciplinary collaboration is exemplified through moments of unexpected synergy: when a solar chemist met a textiles artist, when a bioengineer met a humanities scholar, or when a buildings energy expert met a roboticist. These intersections have potential to reimagine possibilities and define new trajectories for global change.

This case study underscores the role of designers as collaborative systems engineers, capable of reshaping academic landscapes into agile, holistic environments for innovation. It advocates for systems- and process-based approaches to engage with, and create conditions for, circular futures. EFI’s efforts illustrate how connections across disciplines and data-driven insights can inform adaptive, boundary-spanning strategies that enable sustainable futures.

Finally, the study positions EFI as a potential “front door” to circular innovation at the University of Edinburgh, establishing effective organisational cultures and interdisciplinary networks. It asks what circularity means within complex landscapes, how storytelling can simplify and amplify strategic efforts, and how these practices can lead to transformative, collaborative outcomes that address global challenges.