The role of intermediary actors in transformative change[1]

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This Insight explores how intermediaries can push change beyond system optimisation into more transformative territory.

KEY MESSAGES

- Intermediaries can seek to enable transformative outcomes by building and expanding innovative niches, unlocking the existing rules, technologies and social contexts in which they operate, and shaping the wider landscape.
- The case of EIT Climate-KIC shows that systemic intermediaries can play important roles in building niches by facilitating knowledge sharing and exchange together with other actors, and establishing a common language and vision amongst them.
- An additional focus on expanding and embedding new niches as well as destabilising existing carbon-intensive regimes could strengthen the transformative potential of projects and programmes.

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Climate-KIC is supported by the EIT, a body of the European Union

Introduction

This Insight considers the role of intermediaries—actors that connect other actors, link their activities and scale up impact—in supporting transformative outcomes from a sociotechnical transitions perspective. It explores the role of intermediaries in systemic change, what we can learn about EIT Climate-KIC's role as an intermediary in supporting transformative change, and what roles intermediaries must take on to push change beyond optimising regimes and practices into more transformative territory.

Transformation in sociotechnical transitions

A theoretical sociotechnical transition lens gives us a systemic perspective on the role of innovation in moving towards a sustainable future. Systems are composed of several deeply intertwined, technical and social elements, ranging from technology and physical infrastructure to people, organisations, governance arrangements and cultural norms. There are complex interconnections between these elements, including feedback loops.

Central to the systemic approach is the idea of rules. These are not just regulations, but also beliefs and routines that guide the way actors perceive problems and the types of solution they seek. These rules can be about technologies, the structure of industry, law, governance or how the market is organised.[2]

Underlying this concept of changing rules is the theory of sustainability transitions, which illustrates interaction between three levels of the system such as niches, regimes and landscapes.[3]

- At the **niche** level, new ideas and ways of working emerge. Often starting off small and local-level, these can grow into alternative arrangements that combine a system's social and technical elements.

- The **regime** represents a highly stable and entrenched set of rules, technologies and social elements that guide actors within a system and create pathways along which incremental change can take place.[4]

- Niches and regimes are embedded in a broader social and technical **landscape**. This is made up of the physical world, shared cultural beliefs, political ideologies and large-scale trends such as global warming. Together, they create a 'gradient of force', which makes some actions easier than others.[5]

For example, new alternatives at the niche level can support the pathways defined by the broader regime—in other words, they fit and conform. Or they can stretch and transform by creating pressure and changing existing pathways for regime change.[6] Changes that stretch and transform regimes imply fundamental changes in the overarching rules—the values, norms and routines—that underpin a system.[7] So, they can be more or less transformative.

This Insight builds on work done under the Transformative Innovation Policy Consortium (TIPC)[8] to consider what might be more transformative. Introducing the idea of transformative outcomes, TIPC's work identifies 12 outcomes that could lead to changes that stretch and transform regimes, ultimately leading to the systemic change needed to address climate change.

They include outcomes that might support the expansion of innovative niches, connecting and replicating them to others that could destabilise the regime, institutionalise new changes or lead to pressure for broader landscape change. Transformative outcomes can help organisations think through processes of transformation, revising and rethinking their strategies. They provide a blueprint for transformative change and its different dimensions.

Table 1. The 12 types of transformative outcome

Outcome type	Description
TO1 Shielding	Intermediaries or other actors facilitate actions that support niches financially, through policies or by creating a narrative that strengthens an alternative solution.
TO2 Learning	Learning across different actors, especially if they come from different contexts. Second-order and social learning can be identified with reference to surprise, challenging perceptions, collectively dealing with uncertainty and so on.
TO3 Networking	An increase in the number of actors participating in a niche, building ties within a niche, or strengthening its ties.
TO4 Managing expectations	Building shared beliefs, ideas about how change happens, promises and concerns that become more broadly shared by a community.
TO5 Upscaling	Actions or activities or that lead to an increase in the number of users and actors engaged in a niche, and formalisation of the niche.
TO6 Replication	Replicating a niche in a different context—for example, a different geographical location.
TO7 Circulation	A niche or some of its elements is taken up in other niches—for example, certain practices are replicated in related niches through a manual or standard, by sharing experiences with other actors and so on.
TO8 Institutionalisation	Some of the aspects of the niche—for example, its shared values, norms, standards or regulations—are formalised in informal and formal institutions.
TO9 De-aligning and de-stabilising	Changes in the regime challenge its underlying rules and key actors—for example, market, institutional or regulatory reform challenges dominant players.
TO10 Unlearning and deep learning	Changes in the regime create space for new ideas that were previously not possible—for example, climate crisis (a landscape pressure)—forces actors in a conservative fossil fuel-based regime to change narratives and move towards solar energy.
TO11 Regime-niche interactions	Facilitating interactions between a niche and a regime—for example, when formalising some aspects of a niche enables niche-level actors to speak with regime-level actors.
TO12 Perceptions of landscape pressures	Regime-level actors start thinking differently about the cultural values, norms and trends that guide their decisions. This can be the result of a collective process that promotes reflexivity or of disruptions and unexpected events like a financial crisis or natural disaster.

Source: Ghosh et al., (2020)[9]

The role of intermediaries in transformation

Different types of intermediary can play a role in supporting sociotechnical transitions by connecting levels of activity and actors for more transformative change across the range of outcomes described above.[10]

- **Niche and user intermediaries** include grassroots organisations, cooperatives and other local organisations or actors such as architects, planners or consultants who align niche innovations with the priorities and demands of the regime.

- **Regime-based intermediaries** support the regime's reorientation towards a more sustainable direction and working to unlock path dependencies.

- **Systemic intermediaries**, such as EIT Climate-KIC, are catalysts of innovation at the broader system level. They work towards a broad transitions agenda and aim to achieve systems-level impact by orchestrating other actors and intermediaries.

Intermediaries fulfil important functions that can be related to the different processes of transformative change and multiple transformative outcomes. Systemic intermediaries can play a key role in supporting transformative change through systems, as they can act across multiple niches, regimes and levels while maintaining a strong focus on a particular objective. In the case of EIT Climate-KIC, this is addressing climate change.

Any process of profound change in a system requires a complex web of intermediaries. The absence of any given intermediary—for example, user intermediaries—can slow down or hinder some elements of a transformative process.[11] At the same time, intermediaries' functions, roles and objectives can evolve over time, which can lead to conflicts as the system evolves. There is, therefore, a role for what we call an 'intermediary of intermediaries', orchestrating and coordinating these changing positions.

Intermediaries are particularly important in systemic sustainability challenges such as climate change, to increase the speed and scale of change in different aspects of society. To illustrate this, we explore how EIT Climate-KIC seeks to address the climate crisis by playing the role of systemic intermediary.

EIT Climate-KIC: a systemic intermediary

EIT Climate-KIC holds a strategic ambition and commitment to achieving transformative change through orchestration. This is reflected in its vision and mission, and the EIT Climate-KIC community has reorientated its understanding and structuring of projects and programmes towards a more systemic approach.

To this end, EIT Climate-KIC has started to co-create an overarching narrative of system transformation. This begins to create a shared direction for change and a new rationale for how we can achieve this through challenge-driven, long-term and multi-stakeholder engagement initiatives—in other words, through deep demonstrations of change.

This approach aims to enact system transformation by combining the role of a systemic intermediary with a particular objective. We can call this orchestration, which is a broader and more deliberate process than intermediation. Explicitly normative, it recognises the need for entire system change, and acts on this need with an understanding of system transformation and purposeful agency.

This Insight builds its analysis on two programmes run by EIT Climate-KIC—Pioneers into Practice and Climathon (see Box 1)—and a network analysis of projects in 2016–17.[11] EIT Climate-KIC emphasises its own role as a 'keystone actor' that offers platforms, creates shared ecosystems, aligns goals and objectives and breaks silos between organisations working to address climate change.

From a transitions perspective, EIT Climate-KIC works with existing niches while also nurturing the emergence of new actors and practices by making use of a broad portfolio of instruments. EIT Climate-KIC has broadened its understanding of agency. Previously targeted on funding and capacity building, it is taking a more proactive and systemic stance, facilitating, steering and mobilising transformative processes and outcomes at a systems level.

EIT Climate-KIC recently defined itself as an **"orchestrated innovation ecosystem that connects 'demand' and 'supply' in catalysing transformational systemic change; one that brings together public and private actors — businesses and states, individuals and cities."** Its Deep Demonstration projects are the means by which it delivers 'systems transformation as a service' to cities, regions and countries across Europe. This Insight however looks at only two components of the organisation's much wider innovation framework.

Pioneers into Practice is a placement programme that starts with five to six weeks of local-level work for professionals from industry, small companies, universities, research institutes, local councils, non-profit and public organisations. This is followed by six weeks of travel in a different country and on a different project, over the course of seven months (usually from May to November). The programme mixes e-learning, workshops and practical application at the host organisation.

Climathon is an annual event organised by EIT Climate-KIC, a 24-hour hackathon that takes place simultaneously in major cities around the world. During the hackathon, entrepreneurs, students, developers, and others get together to create innovative solutions to climate challenges their city is facing.

Through the Pioneers into Practice and Climathon programmes, EIT Climate-KIC is helping to generate and reproduce a network of climate innovators throughout different European regions, sectors, technological areas and on specific issues.

Climathon has several functions. As well as developing new ideas that can be taken up by different partners, it raises awareness of climate solutions and can put specific problems on local stakeholder agendas. As such, the Climathon can shape local stakeholders' expectations around climate change and the availability of different solutions in different niches. It creates community engagement, supports networking among key actors from education and research, and brings together entrepreneurial, creative and innovative talent across disciplines and geographies.

With its flexible format for developing ideas at local level in a way that is sensitive to local contexts, the Climathon provides a temporary space for generating dialogue, developing new ideas and building new relationships between actors from different sectors. Climathon connects cities working on similar challenges through online tools, allowing actors to exchange information and learn about common problems and novel ideas for addressing them. These opportunities for learning are expanded and maintained throughout the year as each regional hub works on involving more cities and keeping connections between them to facilitate the circulation of knowledge.

Pioneers into Practice reflects transformative processes and outcomes around niche building and, to a lesser extent, niche expansion and embedding. It provides targeted networking opportunities for participants and host organisations—for example, addressing actors in a strategic area of the network to stimulate learning and capacity building among key actors in thematic areas. More than half of all participants regard the programme as having a significant impact on developing new knowledge and competences and 46 per cent think it has a significant impact on developing a better understanding of low-carbon transition thinking.

The Pioneers programme has also contributed to changes in participants' understanding of the complexity of addressing climate change through a systemic approach and the pathways that lead to a zero carbon future. This provides an opportunity to influence policymakers and stakeholders' perceptions and expectations about the actors, processes and domains of transformative change.

The programme also provides opportunities for circulating resources such as methodological tools, experience and best practice, communicating evidence on different approaches by linking local ecosystems to those in different places. To this end, it gives researchers, practitioners and entrepreneurs the opportunity to explore, test and communicate evidence on different approaches, including how well they work in different contexts and the barriers and constraints to 'transplanting' or replicating them in other territories. Pioneers into Practice emphasises opportunities to share and benefit from the knowledge and experiences of others around mechanisms that have supported or hindered niche emergence and nurturing in other places or thematic areas.

Network analysis

Our network analysis, which explored how partners are connected to each other on different themes, shows that EIT Climate-KIC is generating dense clusters of key actors around specific thematic areas. As a result, new relationships between previously separate actors are being formed, which facilitate knowledge exchange and experience sharing.

Comparing four thematic networks, we see that higher education institutions are the most engaged in terms of number of projects. This is followed by business—particularly small and medium-sized enterprises—and research actors. Cities, regions, nongovernmental organisations and larger businesses are less frequently present in the networks.

Conclusions

Within EIT Climate-KIC, translating the systemic transformative vision from strategy to practice is an ongoing process. Both the Pioneers and Climathon programmes show signs of progress in building and expanding innovative niches. Orchestration has supported actors and activities across different niches, sharing and exchanging knowledge between them and establishing a common language and vision among them.

While these outcomes are crucial in supporting the emergence of radical innovation to catalyse transformative changes, further 'stretching' will be needed to move from existing regimes to new low-carbon ones and ultimately to new landscapes. These findings are relevant not just to the EIT Climate-KIC community, but also for other organisations or communities seeking to act as intermediaries or orchestrators for systemic change.

Many niches have been successfully created and nurtured. There is now a need for more emphasis on expanding and embedding those niches and destabilising the current regime around high-carbon practices. Orchestration will need to encompass other transformative change processes that are critical for accelerating system change.

This could include actively engaging with regime actors—including incumbents, laggards and vested interest groups that might intentionally work towards confining radical innovation to niches—thereby hindering the acceleration of systemic change.

It could also mean actively working on building favourable conditions for the institutionalisation of radical changes at different political levels. This goes beyond embedding innovation into existing institutional frameworks to address the need to engage directly with institutional and political barriers and actively shape the multi-level policy and governance frameworks that structure the rule sets of how societal systems are configured and operate.

Transformative outcomes associated with expanding and embedding new niches and unlocking and opening up carbon-intensive regimes could provide a valuable starting point for strengthening transformative potential across projects and programmes. At this point, it is difficult to assess how transformative outcomes may contribute to system-level change and long-term societal impacts. But project and programme designers can use this framing to reflect and learn about critical levers for stretching and changing the rules that shape dominant high-carbon regimes in the different sociotechnical systems that constitute our modern societies.

Endnotes

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11. For details on the methodology and analysis, see the full paper (endnote 1).

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EIT Climate-KIC is Europe's largest public-private partnership addressing climate change through systems innovation to accelerate transition to a resilient, zero-carbon economy.

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