CLIMATE INNOVATION INSIGHTS | Series 1.5
Accelerating the Evolution of Climate Innovation Clusters

Climate Innovation Insights offers a platform for reflections and lessons from renowned climate innovation experts to spark discussion about the process of tackling climate change through innovation. The independent opinion pieces discuss best practices, different methodological approaches towards climate innovation and implications for business, society and politics. The series is supported by Climate-KIC, Europe's largest public–private climate innovation partnership.

Broadening the innovation model: Lessons from Climate-KIC's Regional Innovation Implementation Community

Jon Bloomfield, University of Birmingham, and Fred Steward, Policy Studies Institute

Key messages

- Climate change is a societal challenge: the shift to a low-carbon society requires system-wide transitions in the ways that society works, lives and plays.
- These transitions require that a broad range of players engage, including cities and regions; the Regional Innovation Implementation Community model enables this.
- Transitions also require innovation in socio-technical systems for mobility and buildings, not just new technology products and processes.
- This process will require new transition competences – wider skills and practitioner training – not just traditional education.
- This approach often meets resistance or incomprehension from established actors.

Introduction

From the start, the most original aspect of Climate-KIC – a knowledge and innovation community – was that it embedded a regional, place-based approach to innovation in its structure, in addition to its academic and corporate components. This was new, but by incorporating cities and regions as a distinctive element within its organisation, Climate-KIC was not just focusing on new products. Rather, it recognised a broader, more systemic model of innovation, one that stressed the importance of user applications and emphasised the role of place in addressing the challenges of climate change.

This *Insight* looks at the development, achievements and lessons learnt from the Regional Innovation Implementation Community model used by Climate-KIC from 2009 to 2015.

Changing the policy context

The European Institute of Innovation and Technology (EIT), established by the European Union (EU) in 2008, was envisaged as a ground-breaking initiative to lift Europe's innovation capacity. It was a policy response to the recognition that, in a fast-changing world, the EU needed new insights on innovation.

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Policymakers must shift their mindset to meet systemic challenges.

An EU Communication[1] issued in 2006 had already signalled a shift away from innovation as a linear process driven by the science lab, to a new "broad-based" approach. The Communication argued that the ability of society to develop new solutions needed a "wide partnership" of social actors from "not only the business sector, but also public authorities, civil society organisations, trade unions and consumers". It also declared that innovation takes "many forms", such as novel advances in organisations, services and business models, and is not limited to new products.

This broad-based perspective was radically different to the traditional focus on knowledge transfer from science into practice. It offered new opportunities for cities and regions, especially as it became increasingly clear that there was a growing imperative to address urgent societal challenges such as climate change.

Inventing the Regional Innovation Implementation Community

When the EIT launched a competitive call for a new knowledge and innovation community on climate change, the head of European policy at the UK's West Midlands Regional Development Agency convened a meeting of local stakeholders to engage with this emerging policy agenda. After deciding to explore the potential for regional participation in the EIT initiative, relevant staff from the European Commission were invited to brief senior West Midland players at a meeting in Brussels. In an early indication that the new thinking about the need for broad-based perspectives had not yet percolated to all parts of the Commission, their presentation omitted any role for local or regional authorities.

This omission had been rectified by the time of the official EIT launch event in Vienna in February 2009. Following this meeting, a network of regions was established which linked with the new knowledge base of the Sustainability Transitions Research Network. This gave expression to the emerging trend within the European Commission's thinking on challenge-led innovation and transition.[2]

The regional actors involved reflected the geography of Europe through a partnership of six regions: Lower Silesia and Central Hungary from the east; Valencia and Emilia Romagna from the south; and Hessen and the West Midlands from the north-west. The network was named the Regional Innovation Implementation Community to highlight its focus on the implementation of innovation in practice. It joined forces with a network of universities and businesses as a combined consortium to make a bid to become Climate-KIC in response to the EIT call.

Priorities for the Regional Innovation Implementation Community

As an early priority, the Regional Innovation Implementation Community identified the need for a genuinely new learning programme on climate innovation, aimed at practitioners rather than university students. The bid to establish Climate-KIC that was submitted to EIT said "the training of leading regional practitioners and policymakers in the field" offered the greatest potential for creating short-term change as "practitioners are the backbone of climate change innovation implementation … they are the key link in the innovation cycle".

This focus emphasised the importance to innovation of downstream 'learning by doing', in contrast to the upstream creation of new academic knowledge. It directly addressed the need for individuals to gain system-wide competences, which were rarely promoted through traditional academic specialisation. A new Pioneers into Practice programme was proposed, which required practitioners to "cross conventional boundaries". This would be achieved through the offer of a "wide variety of placements in a diverse range of locations across Europe".[3]

The combined consortium's bid to EIT emerged as the strong winner to establish a knowledge and innovation community on climate change – Climate-KIC – with its regional dimension recognised as a key asset.

Achievements of the Regional Innovation Implementation Community

Over the next five years, Climate-KIC met and extended its goals in these areas. The Pioneers into Practice programme established itself as a new type of mobility

programme, one that enabled working professionals to cross geographical and specialist boundaries to learn in different real-life settings. By 2014, it had grown to over 250 participants and developed new types of interactive training workshops for practitioners, which focused on the processes of transition.

The six regions gradually gained access to Climate-KIC's entrepreneurship programmes, bringing micro-enterprises and start-ups into the project at a lower cost. In 2012, the Regional Innovation Implementation Community was also given the responsibility of running the cross-cutting Making Transitions Happen platform. This promoted the agenda of wider transitions in innovation and secured the involvement of major cities from every region in the Climate-KIC programme.

Political recognition

Over a five-year period, the Regional Innovation Implementation Community and the regional dimension achieved significant academic, policy and political recognition. Academic recognition came in a 2012 study by the EIT, which remarked on the novelty of Climate-KIC's approach, particularly through the regional innovation community.[4] It stressed the importance of realising a multi-disciplinary approach and noted how the Pioneers into Practice programme was achieving this in relation to education and skills training.[5]

The policy significance became clear when the EIT came under political pressure to extend the reach of knowledge and innovation communities to the whole of Europe. The Regional Innovation Implementation Community provided a model that could be replicated; the EIT established a Regional Innovation Scheme as a structured outreach programme to support the innovation capacity in regions not directly benefiting from the EIT and its knowledge and innovation communities. In turn, Climate-KIC used its consortium in the Regional Innovation Implementation Community to establish direct links with nearby regions. The Community offered a framework for ongoing, in-depth partnerships to be built up rather than ad hoc, disparate initiatives.

Political recognition came from Jordi Curell, the Director of the Directorate General for Education and Culture within the European Commission, and therefore the top official overseeing the EIT. He said, at the European Parliament,[6] that: "Climate-KIC's unique selling point is the interaction and collaboration with regions across Europe, working on policy and implementation to create real impact". Others were similarly effusive about the role that regions were playing within Climate-KIC.

Difficulties faced

Inevitably, as a new, cross-European regional initiative, the Regional Innovation Implementation Community encountered problems. At times, pulling six diverse regions together was tricky. Yet the main difficulties lay elsewhere, of which two stood out.

First was the persistence of the traditional linear pipeline model of innovation: this sees scientific research as the primary initiator of the innovation process, which is then implemented by others. The notion of regions as a test bed for innovation was interpreted in two quite different ways. Some saw this as merely trying out the ideas developed by the scientists; the Regional Innovation Implementation Community saw it as a recognition that innovation was often user-led and practice-based and, further, that the major near-term opportunities for climate mitigation are likely to be in place-based systems such as transport and buildings using existing technologies. Yet the architecture for the knowledge and innovation community's innovation pipeline followed a traditional route. This led to persistent frustration, as innovation proposals with a focus on system innovation were rejected.

Second, political pressure on the EIT led to increasing demands for the knowledge and innovation communities to pursue a narrower focus, on financial returns and individual businesses. This detracted from system building and networking, and mitigated against adopting the broad innovation model, as EIT's key performance indicators encouraged the knowledge and innovation communities into a tighter 'straightjacket'. Neither the European Commission nor the EIT seemed to acknowledge that the pursuit of a broader model, and the embracing of societal challenges, system innovation and transition pathways outlined in official documents (e.g. EU Communications, Horizon 2020 calls), required a quantum shift in the type of outputs that EU institutions demand.

As an example, Pioneers into Practice, being a multi-disciplinary practice programme, would better suit key performance indicators that measure "boundary spanning professional development" and "place-based experiments for learning by doing".[7] Key performance indicators influence which activities receive investment, so they need to be conceptually consistent with systematic approaches to innovation.

These difficulties left the Regional Innovation Implementation Community vulnerable. With a change of leadership within Climate-KIC at the end of 2014, the regions were written out of the script and the more traditional innovation model reasserted itself.

Learning from experience

Despite these difficulties, the Regional Innovation Implementation Community legacy – a broad model of innovation to pursue challenge-led socio-technical transitions – lives on in Climate-KIC. The Transition Cities project involves important cities from the Regional Innovation Implementation Community regions in mapping their city-wide socio-technical systems, and in targeting support for transition experiments and demonstrators to enable system innovation. The Transition Hub used insights from the Pioneers into Practice programme to develop wider capacity-building and knowledge-development programmes.

Both initiatives continue to offer leading, internationally innovative and distinctive actions for the transition to a low-carbon society. They are now located in different parts of a newly established Climate-KIC organisational structure, which ended the Regional Innovation Implementation Community in 2015.

Conclusions

There are important lessons from this experience for those working to develop climate innovation clusters and actors applying the emerging, broader approach to innovation policy.

- Embedding challenge-led transitions and systemic approaches is not easy; it encounters resistance from those attached to conservative, status quo approaches that follow the conventional technology-driven paradigm.
- Successful cluster development needs a strong spatial component. Geographical proximity helped the Regional Innovation Implementation Community programmes and gave them a clear place-based identity.
- If the EU is serious about this policy shift, then its policymakers and institutions must modify their key performance indicators to meet the broader challenge-led innovation model.

The EU created the EIT to catalyse innovation.

Climate change is a societal challenge and only a broad societal response can address it. This requires systemic approaches to innovation, not just the development of individual new products, and wider skills and practitioner training, not just traditional education. This approach is not yet deeply embedded in European policy arenas; its full realisation remains a contested process.

Endnotes

1. EU (2006) *Putting Knowledge into Practice: A Broad-based Innovation Policy for the EU*, Brussels: Commission of the European Communities
2. European Commission President Jose Manuel Barroso's speech to the European Parliament, 13 October 2009. See: http://europa.eu/rapid/press-release_SPEECH-09-549_en.htm
3. Taken from the EIT-KICS Climate-KIC proposal (2009), Chapter 5.
4. "In comparison to the Co-location Centre partners, the focus of RIC actors is primarily on context-driven knowledge and practice-based competences and learning. Climate-KIC has recognised that regions are indispensable to their innovation system, as they can highlight local needs and point to innovation challenges … Thus, Climate-KIC extends the innovation model that is conceptualised as an innovation pyramid." EIT (2012) *Catalysing Innovation in the Knowledge Triangle*, Budapest: European Institute of Innovation & Technology, p. 17 (https://eit.europa.eu/sites/default/files/EIT_publication_Final.pdf)
5. Ibid., pp. 22–23
6. 18 November 2014
7. Taken from a 2014 review of indicators for the Making Transitions Happen platform.

Climate-KIC UK and Ireland

Climate-KIC is Europe's largest public–private innovation partnership focused on climate change.

Our partnership consists of dynamic companies, the best academic institutions and public authorities. We drive innovation in tackling climate change through creative partnerships large and small, local and global, and between the private, public and academic sectors. The UK and Ireland is a core geographic region within Climate-KIC and is home to some of the most energetic climate innovation clusters and businesses in Europe.

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Contact details:

ukandireland@climate-kic.org

facebook.com/ClimateUKandIreland

@ClimateKIC_UKI

http://www.climate-kic.org

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Design, editing and layout: Green Ink (http://www.greenink.co.uk)

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