Sustainability through urban living labs

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GUST BRINGS A WIND OF CHANGE

GUST Governance of Urban Sustainability Transitions

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Sustainability through urban living labs

The Governance of Urban Sustainability Transitions project was established to examine, inform and advance the governance of sustainability transitions through urban living labs. The findings could help address many of the economic, social and environmental concerns of the 21st century

As cities seek to respond to the 21st century challenges of environmental sustainability, economic development and social cohesion, there is an increasing interest in harnessing the power of innovation. Across diverse urban contexts, tools and strategies are being developed not only for specific problems but to enable a broader urban transition towards sustainability.

One novel concept that has gained traction in recent years is Urban Living Labs (ULL), which broadly speaking are sites that have been devised to design, test and learn from innovation in real time. ULL can be thought of as bounded sites within which improved understanding can be garnered, and then applied to other contexts. However, despite the fact that ULL are rapidly spreading across Europe as a means by which private and public actors can test innovations in a wide variety of fields, there is a distinct lack of systematic learning in place to enable researchers to quantify their impacts and efficacy.

THE EMERGENCE OF EXPERIMENTATION

With this in mind, the three-year Governance of Urban Sustainability Transitions (GUST) project was established, with the aim to examine, inform and advance the governance of sustainability transitions through ULL. Professor Harriet Bulkeley and the GUST team, alongside the coordinator of the project, Dr Kes McCormick worked to understand the processes through which ULL create an impact beyond their immediate domain.

'The core idea is that urban sites can provide a learning arena within which co-creation of innovations can be pursued among multiple actors,' explains Bulkeley. 'ULL are often characterised by partnerships between the public and private sectors, and are forms of urban governance where universities can play a key and direct role in urban governance.'

Importantly, ULL form part of a wider phenomenon, which is the emergence of experimentation as a means to pursue the governance of sustainability. It is somewhat fitting that, as new challenges present themselves, new modes of thought are being developed to overcome them. Moreover, ULL can be thought of as living, breathing microcosms, and as such they are malleable, and can evolve in the same way that the challenges they seek to solve do. 'Experimentation departs from traditional approaches to environmental governance that have relied on a clear separation between stages of the policy cycle,' explains Bulkeley. 'It builds on an alternative understanding of how knowledge is created – which is sometimes referred to as "post-normal" science or "triple helix" approaches – where there is an emphasis on the co-creation of knowledge and the development of practice simultaneously.'

GOVERNING SUSTAINABILITY TRANSITIONS

Given the complexity of the phenomenon of governing sustainability transitions, GUST was established as an interdisciplinary, collaborative project involving four project partners from across Europe: Lund University in Sweden, Durham University in the UK, Erasmus University Rotterdam in the Netherlands, and Joanneum Research in Austria. 'Transnational cooperation brings additional value to the GUST project and an interdisciplinary approach,' explains McCormick. 'As there is a great diversity in the amount, type, scale and success rate of ULL across Europe, there is a significant potential in this research consortium with partners from different countries. Each partner brings their unique expertise, promising ULL examples, and extensive knowledge specific to their context.'

The specific contexts were especially important to the success of the project, as several research questions assumed and addressed the variability of ULL features, typologies and mechanisms through which they function depending on the territorial context. What works in one scenario will not necessarily work in another.

TYPOLOGIES SYSTEMATISE INSIGHT

Traditionally, the analysis of experimentation, and ULL in particular, has been focused on emerging trends on a broad basis. With that in mind, the GUST team set about examining the reasons for the emergence of ULL in terms of who is and is not involved, and why they are developed in the first place. In addition, they identified a need to analyse the emerging practices of ULL to understand the outcomes and how they contribute to urban governance.

They therefore developed a typology that enables them to comparatively analyse European ULL. 'Our typology is defined by how they are designed and are deployed through specific kinds of actors and practices on the one hand, and by the ways in which they take form as a laboratory,' explains Bulkeley. 'Like all forms of laboratory, ULL entail some form of intervention, which is designed to improve on what might "naturally" (in the broadest meaning of the term) occur: they are interventions designed to improve.' Importantly, ULL are characterised by the intention to observe, so that those observing are able to understand the potential of improvements and how they unfold in particular conditions.

> *'Urban sites can provide a learning arena within which co-creation of innovations can be pursued among multiple actors'*

Using the typology, the GUST team has distinguished between ULL that are designed by strategic, civil and grassroots organisations, each of which are aiming to use ULL for different purposes. In addition, they have shown that ULL adopt different approaches to the laboratory. This shows that there is not a 'one size fits all' recipe for building a perfect ULL.

HERE TO STAY

So, what does the future hold for ULL and the role they will play in urban environmental governance? For years, there has been a concerted effort to create laboratory environments that are directly applicable to the real world and ULL certainly appear to satisfy that requirement.

As such, it is reasonable to expect them to proliferate, but also to develop so that they become increasingly effective. As new challenges present themselves, it will be necessary to create, and then refine, new forms of ULL.

Excitingly, the possibilities and opportunities that ULL present make their potential extremely far-reaching. 'The flexibility of the ULL form and approach mean that whilst "labs" of some kind are likely to stay with us as a means through which cities try out novel approaches to complex challenges, the types of laboratories that we see taking shape on the ground may well shift,' predicts Bulkeley. 'For example, we have shown that "platform" type laboratories are now common across different domains and for different purposes, and this in part reflects existing technological capacities.'

As technologies and innovations develop, so too will the forms of ULL, thereby improving the interactions and visualisations they afford. However, the underlying principle of ULL will remain similar to what it now is: to bring different actors together to experiment with and learn from interventions that are designed to address urban sustainability.

Project Insights

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JPI Urban Europe

PROJECT PARTNERS

Lund University (Sweden) • Durham University (UK) • Sheffield University (UK) • Erasmus University Rotterdam (Netherlands) • Joanneum Research (Austria)

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RESEARCHERS BIOS

Professor Harriet Bulkeley is Professor of Geography at Durham University. Her research is concerned with the nature and politics of environmental governance, and she has particular expertise in the areas of climate change, energy and urban sustainability. She currently convenes the H2020 NATURVATION project examining urban innovation with nature based solutions for sustainable development and is a co-investigator on the GUST project and the H2020 REINVENT project, which examines decarbonisation in systems of production and consumption. Harriet has undertaken commissioned research for the European Commission, UN-Habitat and the World Bank.

Dr Kes McCormick is an Associate Professor and Assistant Head at the International Institute for Industrial Environmental Economics (IIIEE) at Lund University, Sweden. Broadly speaking, he works in the fields of sustainability and governance with a focus on cities. He is currently involved in research and innovation activities on urban living labs, sharing cities and nature-based solutions. He is the project coordinator for the Governance of Urban Sustainability Transitions (GUST) project and the program coordinator for Sharing Cities Sweden. He is also engaged in the NATure-based URban innovation (NATURVATION) project.

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Governance of Urban Sustainability Transitions

Impact Objective

- Examine, inform and advance the governance of sustainability transitions through Urban Living Labs

GUST brings a wind of change

Professor Harriet Bulkeley, Dr Kes McCormick and the GUST team have been working to help European cities achieve economic prosperity, social cohesion and environmental sustainability. Here, they discuss some of the challenges they have faced, and how they are ensuring their findings are utilised

Professor Harriet Bulkeley

Dr Kes McCormick

Could you begin by providing some information about your research interests and background, and explain how you came to be involved in the Governance of Urban Sustainability Transitions (GUST) project?

HB: For 20 years, I've worked on how cities are responding to climate change and sustainability challenges. My initial work demonstrated how cities were coming to be engaged with the climate change issue in very different political contexts, and whether or not national governments were providing leadership in this area. I subsequently showed that municipal governments adopt multiple different modes of governing when engaging with sustainability issues. In 2013, I was awarded the King Carl XVI Gustaf's Professorship in Environmental Science and a Visiting Professorship at Lund University, Sweden. My focus during this time was on the development of 'climate smart' cities, where smart grid and smart city discourses and practices were being married with climate change responses at the urban level. My time at Lund coincided with the opening of a call by JPI Urban Europe for research projects that examined the role of experimentation and Urban Living Labs (ULL) in governing sustainability.

KM: My background is in political science and environmental science, and I engage in a combination of research, education, communication and innovation activities. I am based at the International Institute for Industrial Environmental Economics (IIIEE) at Lund University, Sweden. Broadly speaking, I work in the fields of sustainability and governance. I came to be involved in the GUST project through a keen interest in ULL and experimentation in cities, and meetings at Lund University, where I met with researchers, including Harriet Bulkeley.

What are the major challenges currently preventing European cities from achieving sustainable urban transitions?

HB: It might be better to ask what isn't! A short answer is that the potential for sustainable transitions is shaped by what is termed the existing 'regime', which determines the technologies, institutions, forms of consumption, and political economy of key infrastructures and services, which in turn shape how we consume resources and produce pollution, such as energy, housing, transportation and food provision. Any transition requires shifts in these regimes, which can be difficult to achieve.

Can you describe some of the difficulties involved in applying the insights gleaned from individual ULL in different national settings, both within Europe and further afield?

KM: The GUST project focused on drawing together key findings and lessons from 16 case studies and 50 snapshot examples. The design and ambitions of ULL shape the ability to scale up or transfer lessons to different contexts. There is a considerable amount to be learned from our research on ULL. But, rather than replicate any existing ULL, the trick is to utilise key insights from a range of examples, keeping in mind the different contextual conditions.

Finally, GUST is committed to ensuring that its findings reach those who can translate them into real-world impact, such as urban actors and decision makers. Could you outline some of the dissemination, outreach and engagement strategies it is employing?

KM: The GUST project has organised a variety of events to engage different audiences; produced a range of publications, such as snapshots of ULL, policy briefs, a handbook, an edited book, a special issue and scientific articles; and developed films from the project and contributed to a Sustainable Cities Massive Open Online Course (MOOC), which is available at www.coursera.org/learn/gte-sustainable-cities/.