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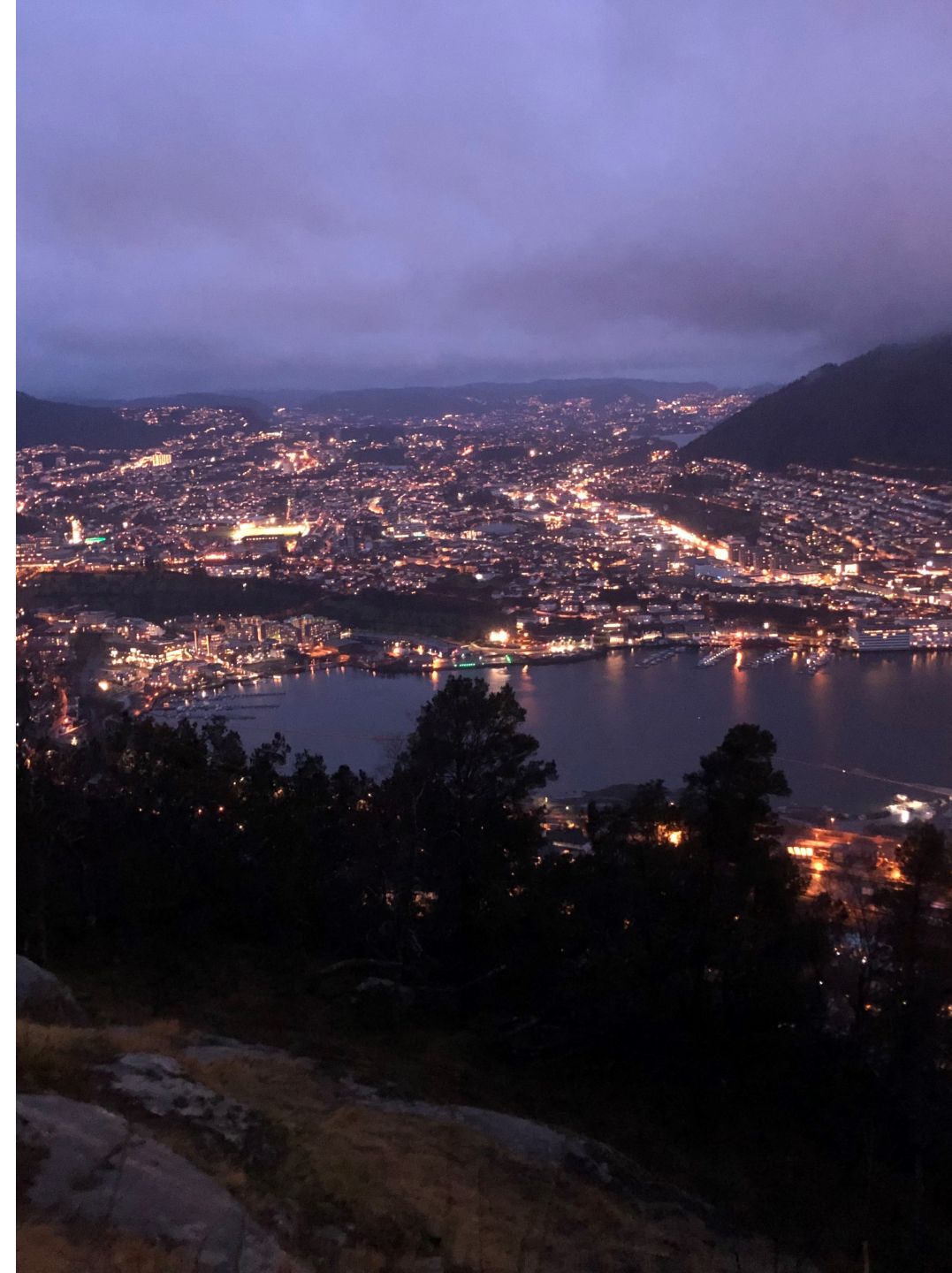
Resilience in the face of sustainability crises – is innovation the problem or the answer?

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Economics (SIDEA), Palermo, 29/30-09



Dark side of innovation – the case of Norwegian pizza



Interesting yet troubling times – resilience & sustainability crises



“ We must reject the perennial prophets of doom and their predictions of the apocalypse

“ I don't believe it.

The concept of global warming was **created by and for the Chinese** in order to make U.S. manufacturing non-competitive.

I don't think it's a hoax, I think there's probably a difference. But I don't know that it's manmade.



“ The environment is very important to me. Someone wrote a book that I'm an environmentalist

It's freezing in New York — **where the hell is global warming?**

Donald J. Trump

The badly flawed Paris Climate Agreement protects the polluters, hurts Americans, and **cost a fortune. NOT ON MY WATCH!**

“ The United States will join **one trillion trees** initiative

The weather has been so cold for so long that the **global warming HOAXSTERS** were forced to change the name to climate change to keep \$ flow!

“ I want the cleanest water on the planet. I want the **cleanest air** anywhere — crystal-clean water



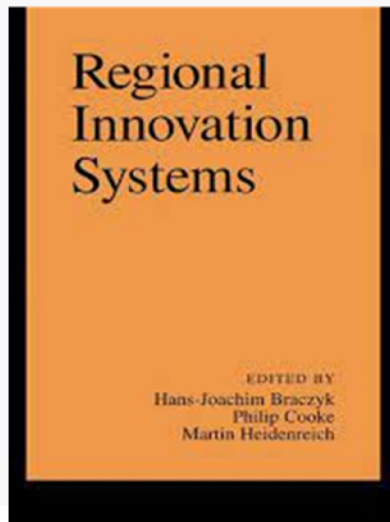
Overview

- › A brief history of regional innovation
- › A normative turn?
- › Rethinking innovation and regional innovation policy



Regional innovation

- Beyond one-size-fits-all – innovation happens in most sectors (and across)
- Evolutionary: Path and place dependency
- Systemic: innovation is a social process that is conditioned by relations and institutions
- Policy matters: innovation has institutionalized in territorial development strategies



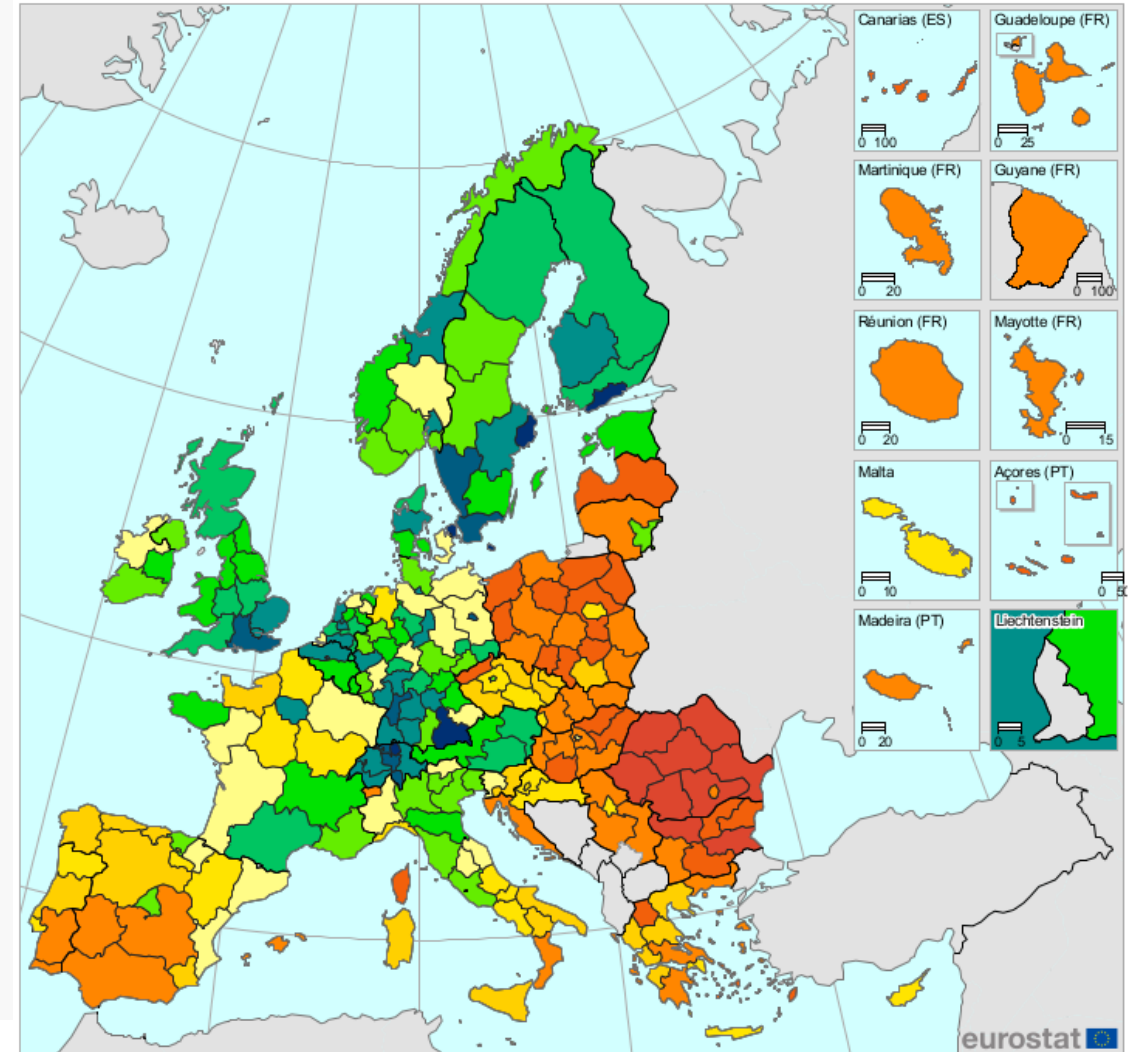
The uneven innovation geography of Europe

Growing divides:

- Persistent disparities between countries
- Persistent disparities within countries
- Rural – urban divide

Revenge of the places that don't matter (Rodriguez Pose, 2018)

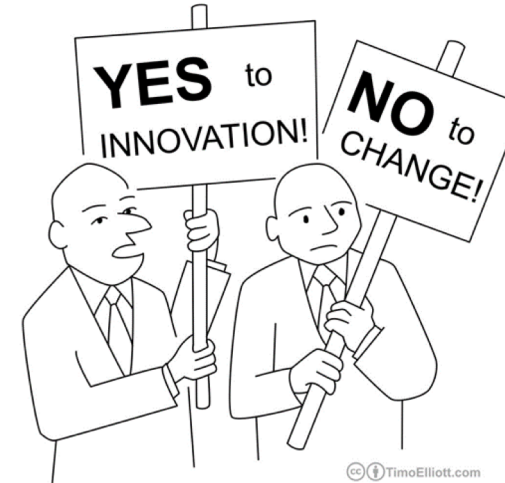
Questioning 'the innovation imperative' (Pfotenhauer et al., 2019)



Questioning the innovation imperative

‘the intellectual and policy legacies of our focus on regional competitiveness leaves our discipline out of step with the most pressing regional environmental and economic issues of our time’ (Donald and Gray, 2019, p. 300)

‘Although regional scholars are justly intrigued by the success stories around regional innovation, they must also understand issues of equity and justice and pay attention to the environmental damage of both production and regional consumption’ (Donald and Gray, 2019, p. 305)



*“We only have two demands!
Why don't people just give us what we want?”*

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2019, VOL. 53, NO. 2, 297-308
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URBAN AND REGIONAL HORIZONS



The double crisis: in what sense a regional problem?

Betsy Donald^a and Mia Gray^b

ABSTRACT

We are now facing Andrew Sayer's 'diabolical double crisis', which encompasses both a deep financial crisis and an environmental one. The scale, scope and nature of this double crisis is downplayed in the regional studies literature, much of which still focuses on innovative growth models often divorced from broader social and ecological contexts. To help solve both crises we call for regional studies to explore new models that allow a focus to be made on the most important issues of our time. We illustrate this by focusing on the contradictions in the waste produced by contemporary regional economies: waste of abundance, labour and resources.

KEYWORDS

inequality, climate change, precarious labour, waste, wealth, redistribution

JEL B11
HISTORY Received 26 May 2017; in revised form 8 June 2018

INTRODUCTION

During the last few decades, scholars of regional studies have led academic and policy debates on the state of regional economies in a global world. These debates centred on ideas of regional aspects of economic and institutional forms, inequality, and the spatiality of power. It is easy to forget how revolutionary some of the ideas were and how they challenged existing paradigms and canonical thought. One such paper was Doreen Massey's 'In what sense a regional problem?' (1979), which argued for new ways of considering regional inequalities by examining how the specificities of place are inextricably bound in their wider spatial context and the flows of capital and power. In this way, Massey encouraged a real paradigm shift as she encouraged the discipline to reconceptualize regional inequality and uneven development. Massey's work on regional uneven development is more salient than ever as there is increasing recognition that today's generalized social injustices and inequalities are manifested in environmental conditions, the global market economy and state responses.

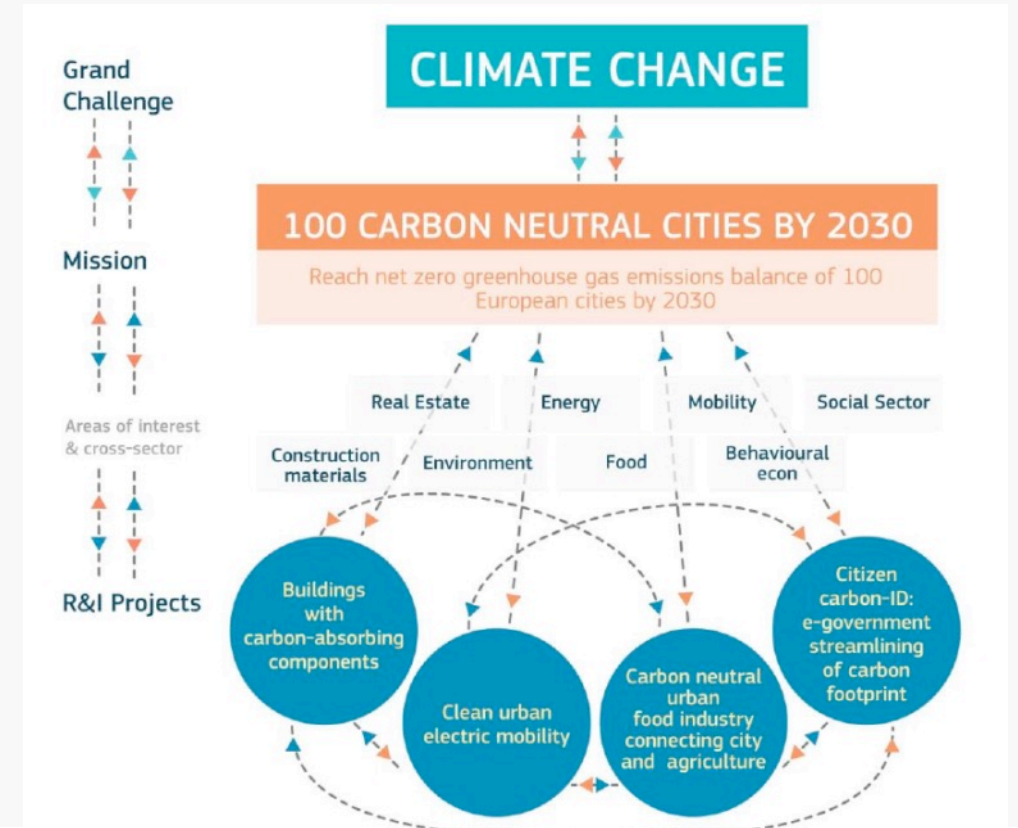
We argue that we are in what Andrew Sayer calls a 'diabolical double crisis', that is, 'on the one hand, a deep financial crisis, [and] on the other hand, the threat of runaway global warming' (Sayer, 2015, p. 29). The scale, scope and nature of this double crisis, with few exceptions, has been downplayed in the regional studies literature, much of which continues to focus on innovative regional growth

models often divorced from the broader economic, social and ecological context. Hadjimichalis and Hudson (2014) make a similar critique about the crisis of contemporary regional development theory – its failure to assess the onset of the 2007–08 financial crisis and its inability to explain the consequences. They argue that contemporary regional theory has focused too much on regional success stories at the expense of examining the nature of capitalism as an inherently crisis-prone social system of accumulation with uneven geographical outcomes. We are sympathetic to Hadjimichalis and Hudson's call. However, their critique needs to be extended to incorporate the inextricable link between the global financial crisis and the environmental one, especially at the regional level. The motivation of the present paper, then, is to explore Sayer's double crisis through an examination of the production and reproduction of inequality and waste as we explicitly ask the question: In what sense is the double crisis a regional problem? And, in turn, to what extent can regional theory be part of the solution?

Fortunately, there is growing research on the sustainability transition perspective (Bulkeley & Newell, 2015; Truffer & Coenen, 2012) and research that explicitly attempts to bridge the environmental movement with the concerns of regional development (Gibbs & O'Neill, 2017; Gibbs, Deutz, & Proctor, 2005; Healy & Morgan, 2012). This is important literature focusing on regional practices, such as clustering and networking, that could lead to a more environmentally sustainable economy.

A new rationale for innovation?

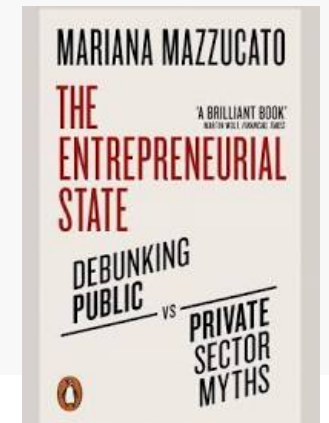
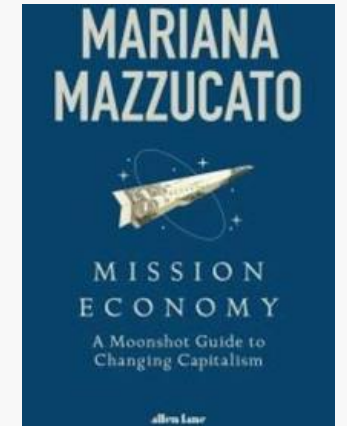
Lund Declaration(s) (2009; 2015): Europe must speed up solutions to tackle grand challenges through research, alignment and impact



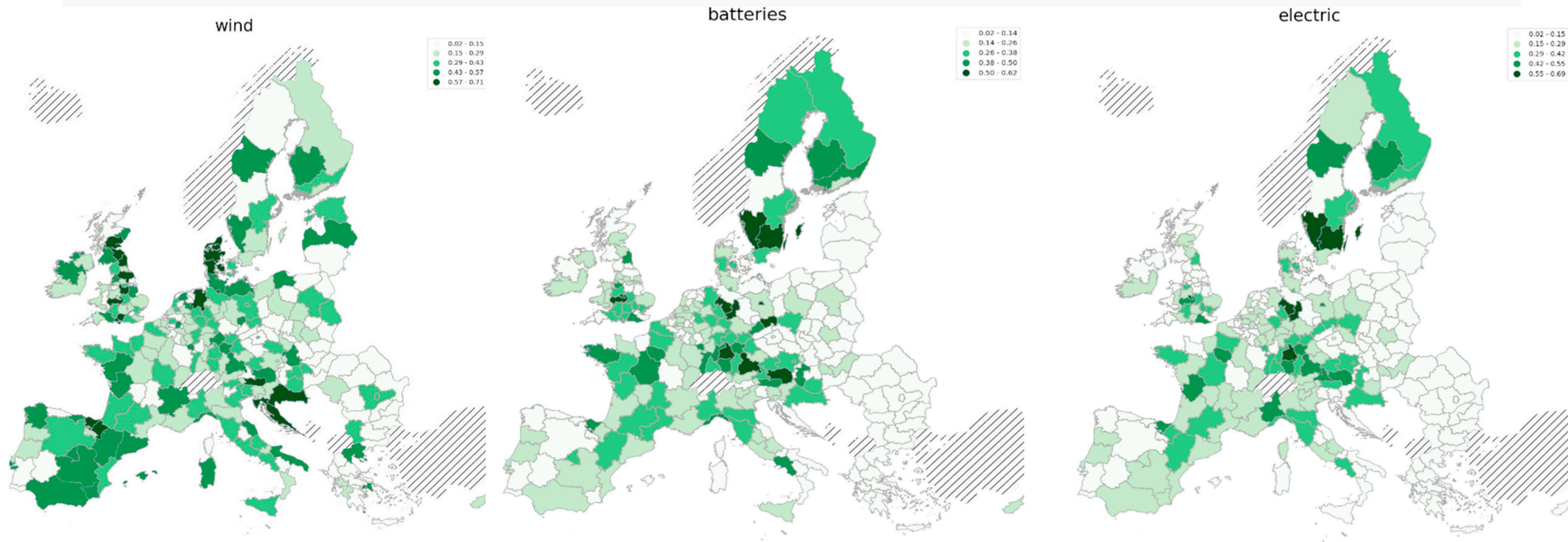
A normative turn in innovation studies & policy

**Innovation
is political.**

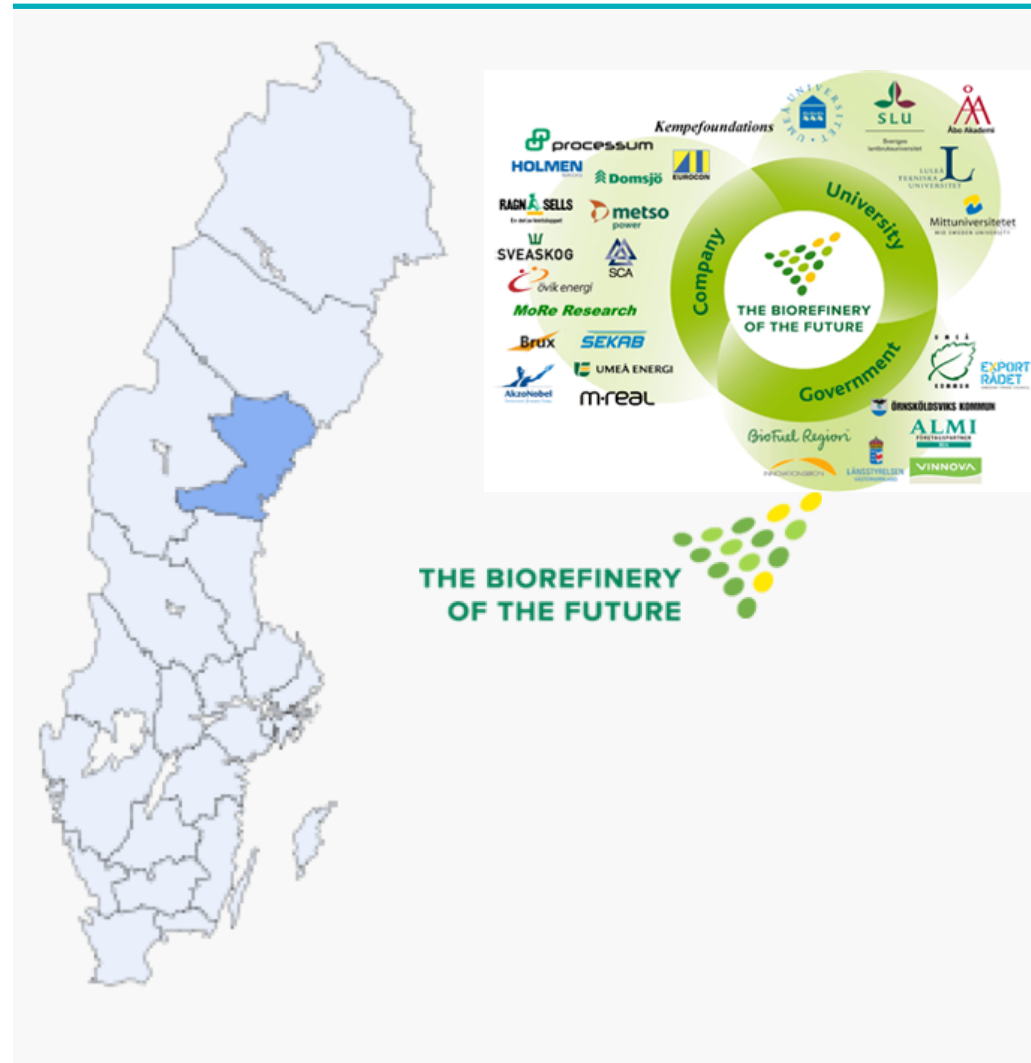
"All innovation has both a
rate and a direction"



Throwing out the baby with the bath-water? The uneven geography of green technology



Innovation policy shifting towards sustainability: the case of biorefining in Sweden



Regional Studies, 2015
Vol. 49, No. 5, 850–865, <http://dx.doi.org/10.1080/00343404.2014.979321>



Path Renewal in Old Industrial Regions: Possibilities and Limitations for Regional Innovation Policy

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COENEN L., MOODYSSON J. and MARTIN H. Path renewal in old industrial regions: possibilities and limitations for regional innovation policy, *Regional Studies*. This paper analyses the potential, barriers and limitations for regional innovation policy to facilitate industrial renewal in old industrial regions. It draws on a case analysis of the policy programme 'Biorefinery of the Future' geared to promote renewal of the fore for new regional path development to complementary models as well as regulatory levels of policy-making is in to the industry at large.

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Innovation policy for system-wide transformation: The case of strategic innovation programmes (SIPs) in Sweden

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Innovation systems
Structural change

ABSTRACT

The orientation towards grand societal challenges can be seen as a new wave or paradigm for innovation policy. Such policy aims at system-wide transformation and is often referred to as system innovation policy. While insights from transition studies have provided novel and useful rationales for innovation policy targeting system-wide transformation, it remains unclear how to design, implement and evaluate such policies. The contribution of this paper is to translate and concretize the challenges of system innovation policy towards scope for policy action and analysis. Building on insights from transition studies we group the challenges into four domains: directionality, experimentation, demand articulation, and policy coordination and learning. We relate challenges within the four domains to three generic features of innovation systems: interests and capabilities of actors, networks, and institutions. The derived framework is applied in a case study on the strategic innovation programmes, a recent policy initiative by Vinnova, Sweden's Innovation Agency, targeting system innovation.

Biorefinery innovation & paper and pulp industry



R&D-led renewal of traditional industry

Diversification of paper and pulp industry

Risk for technological fix / 'solutionism'

Non-technological barriers to innovation & transition

- Business models
- Regulatory framework
- Controversies / crisis of legitimacy

Policy dilemmas for sustainability-oriented innovation policy

- › ‘What is needed to address social and environmental problems is a focus on the directionality of socio-technical systems, and a more participatory and inclusive approach’ (Schot and Steinmueller, 2018)
- › New instruments and rationales for innovation policy but risk for state paternalism and high opportunity costs – questioning the entrepreneurial state (Wennberg & Sandstrøm, 2022)
- › The dual face of innovation: the bright and the dark side of innovation
 - › Problem-solving vs. Unintended consequences
 - › Critical for wealth-creation vs. growing inequality
 - › Wicked sustainability challenges
- › The Collinridge Dilemma “attempting to control a technology is difficult...because during its early stages, when it can be controlled, not enough can be known about its harmful social consequences to warrant controlling its development; but by the time these consequences are apparent, control has become costly and slow’
- › Who decides on ‘the right direction’ for innovation?

Rethinking innovation as experimentation (what if?)

Experimentation: the bottom-up counterpart of top-down missions

- › Shielding
- › Nurturing
- › Empowering
- › Contesting

Experimentation combines generative and evaluative features of novelty creation

Geared to

- › Directionality: setting priorities and guiding innovation towards societal problems
- › Demand articulation: anticipating and learning about user needs
- › Policy coordination: policy coordination across sectors, technologies and territorial levels
- › Reflexivity: monitoring of activities and progress towards change

(Weber and Rohrer, 2012)

Scaling down to 'mini-missions'?

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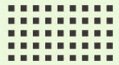
C40 Cities

MAKE A DIFFERENCE

Each city in the C40 is unique in its infrastructure and progress in addressing climate change. C40 works to empower cities to connect with each other and share technical expertise on best practices.



C40 CITIES
account for



63
affiliated cities



18 %
of the world population



1 in 12
People worldwide

8,068

Actions to combat
climate change

TAKE ACTION
IN YOUR
COMMUNITY

Our Member Cities

Following a highly competitive application process (1,000+ applications), 100RC selected a first group of cities in December 2013, announced the second in December 2014, and the third in May 2016



100 RESILIENT CITIES

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Smart Specialisation for Sustainable Development Goals

Localised Science, Technology and Innovation Roadmaps
for transformation and development

#SmartSpecialisation

s3platform.jrc.ec.europa.eu
[@S3Platform](https://twitter.com/S3Platform)

Towards experimentation in mini-missions

(Coenen and Morgan, 2020; Tödtling et al., 2021; Uyarra et al., 2019; Marques and Morgan, 2018; Wanzenböck and Frenken, 2020)

1. A more capacious understanding of innovation
2. New rationales beyond economic competitiveness
3. New roles and responsibilities of the state
4. Multilevel governance
5. Risk of projectification

Challenges to mini-missions

- › Co-creation fatigue: risk for 'pilotitis', consultation & workshop overkill
- › Iterative trial and error: accountability and (autonomous) project logics
- › Policy coordination and learning: many policy-makers, let alone politicians, are not primarily interested in learning
- › Scaling up: linkages between experiments and policy at other levels are unlikely to exist without significant effort and resources
- › Governance experimentation: in spite of the discourse, strong focus on technical 'solutions' and 'showcases' & lack of diversity in the type of experimentation that is undertaken
- › Organisational capacity deficiencies to orchestrate and monitor experiments



Thanks / questions?