

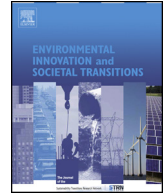


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# The local community as a “low-carbon lab”: Promises and perils



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### ABSTRACT

Strategic niche management (SNM) conceives of local experiments within protected spaces as important initiators of learning and empowerment of new sustainable technologies. We complement political perspectives on local experiments with evidence on the personal experiences of local and national-level decision makers involved in a Finnish programme called Carbon-Neutral Municipalities, which engaged five small municipalities as “low carbon labs”. The SNM literature can benefit from an understanding of how ordinary people experience experiments and interpret their results. We suggest that low-carbon experiments can offer promise to ordinary citizens and politicians by supporting the deployment of new technologies, contributing to local learning, offering outside input, and offering “proof of principle” that greenhouse gas emissions can be reduced. However, ordinary people judge experimentation on different criteria than scientists. In order to serve as “proof of principle” and encourage people to persist in climate action, local low-carbon experiments cannot afford to fail.

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## 1. Introduction

Experimentation in bounded local contexts has gained significant attention in the sustainability transitions literature. Within a socio-technical transitions approach, strategic niche management (SNM) conceives of local experiments (niches) within protected spaces as important initiators of learning and empowerment of new technologies (Raven et al., 2008). Transition management – a governance approach – views “local experiments” as central in a societal learning process for sustainability (Kemp et al., 2007). It is thus opportune that local governments in different countries and continents have decided to forge ahead of their national governments in climate policy (Bulkeley et al., 2003): local climate action offers an ideal site for experimentation to support sustainability transitions.

Local attempts to develop more sustainable solutions in urban planning and the built environment have been explicitly compared to strategic niche management (Quitau et al., 2012; Naess and Vogel, 2012; Bulkeley and Broto, 2013), and significant similarities, but also differences have been found. Our paper expands on this perspective by examining a local experiment from the perspective of non-technologists. Rather than examining the development of technological niches, we examine experimentation from the participating non-technologists' perspective. Such analysis can throw light on the “struggles” mentioned in the SNM literature (Raven et al., 2008). However, in contrast to those highlighting the politics of local experimentation (Hodson and Marvin, 2007; Bulkeley and Broto, 2013), we focus on the personal experiences of those involved.

Our data derive from a Finnish programme called Carbon-Neutral Municipalities (2008), which has engaged five small – otherwise quite ordinary – municipalities as “low carbon labs”. This offers a contrast to much of the work on strategic niche management, which takes the sustainable technology proponents' perspective (see Schot and Geels, 2008). On the other hand, most of the more “locally grounded” examples of climate action derive from local communities that are particularly innovative (Hajer, 2011) or from large cities that are trying to position themselves as climate leaders (Hodson and Marvin, 2007). However, there is less work on the type of experimentation occurring in ordinary, rural communities. In this way, our study complements work on socially innovative grassroots initiatives (Seyfang and Smith, 2007), community energy (Walker and Devine-Wright, 2008), energy regions (Späth and Rohrer, 2010) and Transition Towns (Scott-Cato and Hillier, 2010; Wells, 2011), as well as more macro research on municipal climate initiatives (Sippel and Jenssen, 2009; Pitt and Randolph, 2009; Bulkeley and Betsill, 2005; Bulkeley and Broto, 2013).

Yet we target our message in particular to strategic niche management scholars. Our specific perspective is to interrogate the notion of “local experimentation” from the perspective of the local community in which such experimentation is performed. Experimentation entails a science-driven notion of testing and validating or disconfirming hypotheses. This kind of idea might find common cause with the concerns of local people and politicians on different levels, but may also run into conflict with the everyday concerns and mandated responsibilities of different parties. Scientific experiments are not failures even if the expected results are not produced. In real-life circumstances, however, experimentation might entail risks – not only to the individuals participating but also to their families, neighbours and electorates. Most fundamentally, we also ask whether ordinary people judge the results of experimentation in real life on the same criteria as are used to judge experimentation in the lab.

Our research question is thus how non-technologists participate in, experience and evaluate local experimentation. What do non-technologists learn from the local experiment and what are the drivers and barriers to experimentation for parties that are not proponents of particular sustainable technologies?

In the following, we first discuss the existing literature on the role of local experimentation in the context of strategic niche management. We then offer more details on our data and the context of the study. We analyze the role of experimentation from two perspectives: that of local residents and politicians, as well as that of members of the national CANEMU steering group. Our subsequent analysis focuses on the roles and features, and benefits and drawbacks, of experimentation found in this particular case. We also discuss the limitations of our findings and suggest implications for further research.

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