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A grassroots sustainable energy niche? Reflections on community energy in the UK

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ABSTRACT

System-changing innovations for sustainability transitions are proposed to emerge in radical innovative niches. 'Strategic Niche Management' theory predicts that niche-level actors and networks will aggregate learning from local projects, disseminating best practice, and encouraging innovation diffusion. Grassroots innovations emerging from civil society are under-researched, and so we investigate the UK community energy sector to empirically test this model. Our analysis draws on qualitative case study research with local projects, and a study of how intermediary organisations support local projects. We examine the extent and nature of interactions and resource flows between projects and intermediary actors in order to evaluate the utility of niche theories in the civil society context. While networking and intermediary organisations can effectively spread some types of learning necessary for diffusion, this is not sufficient: tacit knowledge, trust and confidence are essential to these projects' success, but are more difficult to abstract and translate to new settings. We discuss the implications of our findings for niche theory, for community energy and other grassroots practitioners aiming to build robust influential niches, and for policymakers.

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1. Introduction

The combined pressure of global climate change, threats to energy security and peak oil are driving a research agenda towards a radically more sustainable energy system (UKERC, 2009; Grin et al., 2010). The UK government's Low Carbon Transition Plan presents a national strategy for climate and energy which includes reducing energy consumption through conservation and efficiency measures, and the development of low-carbon electricity generation (HM Government, 2009). A key element of this plan is the role of households and communities, and the government's aim to "create an environment where the innovation and ideas of communities [in response to climate change] can flourish" (HM Government, 2009, p. 92).

Community energy projects are one example of this type of grassroots-led innovation, which aim to create more sustainable energy systems. They encompass a wide range of initiatives such as locally-owned renewable energy generation, community hall refurbishments, collective behaviour change programmes, and are claimed to bring additional public engagement benefits to top-down policy initiatives. Community energy has therefore been proposed as a new policy tool to help achieve the transition to a low-carbon energy system (e.g. The Cooperative and Co-operatives UK, 2012; Clark and Chadwick, 2011; DECC, 2014), but little is known about the scope and potential of such community-led innovations to influence wider transitions in the energy system.

To understand the dynamics of system transformation, we turn to theories of socio-technical change which have examined the role of protected 'niche' spaces as seedbeds of radical innovation. Niches are claimed to develop from clusters of sustainability innovations (projects), and in turn help new projects get established. Niches therefore help to diffuse innovations more widely, potentially becoming robust enough to compete with – and influence or displace – existing, less sustainable systems (Geels, 2005; Kemp et al., 1998; Raven et al., 2008). Strategic Niche Management (SNM) is a governance approach to nurturing niches as seedbeds of sustainable innovations, and identifies conditions and processes for niches to become robust and influential (Schot et al., 1994; Kemp et al., 1998; Hoogma et al., 2001). While research within this field to date has focused on managed technological innovation in market contexts, a growing body of work on 'grassroots innovations' is examining bottom-up civil society-led initiatives for sustainability (Seyfang and Smith, 2007). This work aims to better understand values-driven, community-based initiatives for sustainability, in order to support their growth and achieve wider influence. To this end, we aim to test the applicability of SNM to community energy, a grassroots innovation.

We present new empirical evidence from a study of the community energy sector (comprising many local projects) in the UK, and investigate the extent to which the activities and interactions between local projects and intermediary actors suggest that a community energy niche is evident (a full niche analysis is forthcoming). We draw on three main bodies of data: a set of 12 in-depth qualitative case studies of community energy projects; a review of resources available from networks and intermediary organisations representing the sector; and 15 in-depth interviews with key actors working at this intermediary level. We ask: can SNM adequately and usefully conceptualise our empirical

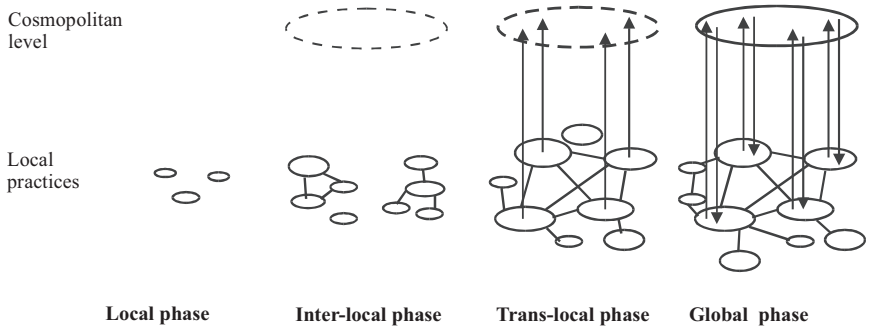

Fig. 1. Phases in the development of shared technological knowledge (Geels and Deuten, 2006: 269).

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