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Grassroots innovations in community energy: The role of intermediaries in niche development

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ABSTRACT

Community energy projects are attracting increasing attention as potential sources of innovation to support sustainable energy transitions. Research into 'grassroots innovations' like community energy often recognises the difficulties they face in simply surviving let alone in growing or seeding wider change. Strategic niche management theory is potentially helpful here as it highlights the important roles played by 'intermediary actors' in consolidating, growing and diffusing novel innovations. This paper presents the first in-depth analysis of intermediary work in the UK community energy sector. New empirical evidence was gathered through interviews with 15 community energy intermediaries and a content analysis of 113 intermediary-produced case studies about community energy projects. Analysis finds intermediaries adopting a variety of methods to try and diffuse generic lessons about context-specific projects, but that trying to coordinate support for local projects that exist amidst very different social and political circumstances is challenging. This is exacerbated by the challenges of building a coherent institutional infrastructure for a sector where aims and approaches diverge, and where underlying resources are uncertain and inconsistent. Applications of relatively simple, growth-oriented approaches like strategic niche management to grassroots innovations need to be reformulated to better recognise their diverse and conflicted realities on the ground.

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1. Introduction

Realising a sustainable society is increasingly seen as demanding a fundamental transition in the way a whole range of different societal functions – from energy to water and from food to mobility – are met (Elzen et al., 2004). Whilst scholars working in the field of innovation studies have increasingly come to see novel innovations emerging from small-scale and relatively protected 'niches' (Geels, 2005), to date, the majority of this work has focused on market-based innovations designed for competitiveness, rather than more novel socio-technical alternatives emerging from civil society activism on sustainability (Smith et al., 2010).

In this context, an emerging body of work has come to focus on radical 'grassroots innovations' – those that challenge and often attempt to replace existing and unsustainable sociotechnical systems – as an arena that might be developed (Seyfang and Smith, 2007). At the same time, however, whilst many community activists and increasingly policy makers, seek to promote their growth and diffusion, much of the existing work on grassroots innovations has identified the significant difficulties they face in simply surviving, let alone in having a substantial influence over wider unsustainable systems.

In trying to understand how grassroots innovations might overcome these challenges, we focus in this paper on the roles played by 'intermediary' actors in the grassroots innovation process. Within the literature on niches, intermediaries are identified as playing a number of important roles in helping niches to develop and become more robust (Geels and Deuten, 2006). Specifically, intermediaries connect specific and often isolated local innovation projects with one another and with the wider world (Howells, 2006). Through this 'relational work' (Moss, 2009) they are able to identify common issues and problems encountered across multiple local projects, and can therefore support niche development and diffusion by sharing this knowledge more widely, helping subsequent projects to benefit from accumulated experience.

To date, however, very little work has examined the role of intermediaries in sustainability niches and still less has examined the nature and extent of the roles they may play in helping grassroots innovations to develop and grow. Such development and growth is an important issue and one that is increasingly sought by policy makers and by many community activists. At the

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same time, not all grassroots innovations do wish to grow and diffuse and it is therefore important to be critical of policy goals as well as analytical approaches that seek to simplify and standardise this highly diverse field. With these concerns in mind, our paper focuses on how intermediary actors engage with the diverse forms of grassroots innovation being developed within the field of community energy in the UK – a field that has received a great deal of policy attention in recent years because, if growth and diffusion could be achieved, it has the potential to make a substantial contribution to tackling current energy challenges (e.g. Walker et al., 2007). Examples of community energy intermediaries include the Centre for Sustainable Energy; or, operating on a more regional basis, Community Energy Scotland. Both help to initiate new community energy projects, provide training and advice to practitioners, and undertake research and policy analysis on community energy making this available to local projects.

Section 2 introduces the literature on grassroots innovations, niches and intermediaries more broadly, before Section 3 outlines the UK community energy sector and the methodological approach adopted in this study. Drawing on interviews with 15 intermediary actors working within UK community energy, as well as a content analysis of 113 case studies produced by intermediary actors about local community energy projects, Section 4 then details the different roles played, and challenges faced, by intermediaries working in this area. Finally, Section 5 draws some conclusions for future research on and theorising about grassroots innovations.

2. Intermediaries and grassroots innovation

Seyfang and Smith highlight the 'grassroots' as "a neglected site of innovation for sustainability" (Seyfang and Smith, 2007, p. 585). Understanding 'grassroots' to refer to initiatives undertaken by committed activists within civil society arenas, they highlight a number of important ways in which grassroots innovations differ from the more mainstream, market-based innovations that, to date, have been the mainstay of both empirical research and theoretical development in innovation studies (Geels, 2005). These differences include: distinct organisational forms (firms vs. a wide range of organisational types encompassing co-ops, voluntary associations, informal community groups etc.); different resource bases (commercial income vs. voluntary labour, grant funding etc.); divergent contextual situations (the market economy vs. the social economy); alternative driving motivations (the pursuit of profit vs. meeting social needs or pursuing ideological commitments); and the pursuit of qualitatively different kinds of sustainable development (mainstream business greening vs. radical reform of sociotechnical systems) (Seyfang and Smith, 2007, p. 592). It is the nature of these differences, the fact that grassroots innovations exist in spaces where 'the rules are different' from (and at times oppositional to) the mainstream, that makes grassroots innovations a profoundly interesting and challenging site for the application and development of niche-based innovation theories.

Since Seyfang and Smith's work, a growing number of studies have examined how various kinds of grassroots organisations are either seeking to influence innovation processes from the outside (e.g. Elzen et al., 2011; Geels and Verhees, 2011), or are actively engaged in innovation processes themselves. For example, recent studies have looked at grassroots innovations in eco-housing and eco-villages (Avelino and Kunze, 2009; Seyfang, 2009; Smith, 2007); complementary currencies (Longhurst, 2012) organic and local food systems (Smith, 2006a); and energy (Geels and Verhees, 2011; Hielscher et al., 2013). Common across many of these case studies, however, is the identification of the profound difficulties grassroots innovations face even in simply surviving in the medium to longer term, let alone in growing, diffusing or challenging mainstream systems.

Seyfang and Smith categorise these challenges into two forms (Seyfang and Smith, 2007). *Intrinsic* challenges refer to internally focused issues of how grassroots innovations are organised and managed, the skills and resources they require, and the ways in which this can leave them vulnerable to wider shocks, such as funding cuts, loss of key people, or changes in policy priorities. By contrast, *diffusion* challenges refer to the many and various barriers that work to reduce the wider, external influences that grassroots innovations may have. These can include context-specificity and 'geographical rootedness', ideological commitments to being 'other' and outside the mainstream, competition from more powerful mainstream groups who may develop watered-down alternatives, and the general risk aversion of policy makers when dealing with small-scale, often radical, and relatively informal innovating organisations.

Whilst the precise challenges will inevitably differ from case to case, in attempting to understand how grassroots innovations in general may be helped to survive for longer and, should they or policy makers and intermediaries so desire, to diffuse and grow, we turn to developments in niche theories (e.g. Kemp et al., 1998; Hoogma et al., 2002; Hegger et al., 2007; Raven, 2007) as offering some potentially helpful theoretical tools. Specifically, strategic niche management is a theory of how innovations develop and grow and how those processes can be harnessed strategically so as to challenge and potentially replace existing sociotechnical systems. To be clear, whilst it is far from the case that all grassroots innovations necessarily wish to scale-up, grow or diffuse, the application of niche theories is potentially extremely valuable for those that do, as well as for normative policy goals in this area and, accordingly, has attracted considerable recent attention (e.g. Kemp et al., 2001; Truffer, 2003; Smith, 2006a, b; and see Smith et al., 2010 for a review). Here, and like grassroots innovations, niche theories emphasise that the status quo of incremental efficiency improvements and business greening will no longer do and that more fundamental changes – whether in technologies and infrastructures or in social norms, values and institutions – are required.

Within the niche theory literature, a number of key factors have been identified, often through analysis of historical case studies, as important in facilitating the development of robust and successful niches. Smith and Raven et al., for example, highlight the importance of various forms of learning, networking between stakeholders, the development of institutions to promote the niche innovation, and the ways in which niche innovations might be translated to fit-in with mainstream systems (Smith, 2007; Raven et al., 2010). In this paper, however, we have chosen to focus on one key factor that has hitherto been largely neglected – intermediary actors (Geels and Deuten, 2006).

Whilst early work in niche theory tended to focus on single projects and experiments (e.g. Hoogma et al., 2002), the focus has since shifted to try and understand how lessons and experiences from across multiple local projects get exchanged and distributed to form, gradually, a shared development trajectory for the emerging innovation sector as a whole. In the terminology of niche theory, the focus has shifted from understanding 'local projects' towards understanding how multiple such projects combine to form a 'global niche' level which refers to an emerging field or community at which shared rules and practices form and evolve (e.g. Geels and Raven, 2006; Raven et al., 2008, 2010). Here, Geels and Deuten observe that global niches do not just arise spontaneously, but that this requires 'dedicated socio-cognitive work' (Geels and Deuten, 2006, p. 266) undertaken by 'intermediary actors'.

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