

Seyfang, Gill; Haxeltine, Alex; Hargreaves, Tom; Longhurst, Noel

Working Paper

Energy and communities in transition: Towards a new research agenda on agency and civil society in sustainability transitions

CSERGE Working Paper EDM, No. 10-13

Provided in Cooperation with:

The Centre for Social and Economic Research on the Global Environment (CSERGE), University of East Anglia

Suggested Citation: Seyfang, Gill; Haxeltine, Alex; Hargreaves, Tom; Longhurst, Noel (2010) : Energy and communities in transition: Towards a new research agenda on agency and civil society in sustainability transitions, CSERGE Working Paper EDM, No. 10-13, University of East Anglia, The Centre for Social and Economic Research on the Global Environment (CSERGE), Norwich

This Version is available at:

<https://hdl.handle.net/10419/48803>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

**Energy and communities in transition – towards a
new research agenda on agency and civil society
in sustainability transitions**

by

Gill Seyfang, Alex Haxeltine, Tom Hargreaves and
Noel Longhurst

CSERGE Working Paper EDM 10-13

Energy and communities in transition – towards a new research agenda on agency and civil society in sustainability transitions

Draft of 30 July 2010

Gill Seyfang*, Alex Haxeltine, Tom Hargreaves and Noel Longhurst

* corresponding author: g.seyfang@uea.ac.uk

School of Environmental Sciences, University of East Anglia, Norwich, NR4 7TJ, UK

Abstract

The UK's energy transition (to a sustainable, low-carbon development path) may turn out to be highly dependant on the engendering and embedding of new types of social practice as well as on the widespread uptake of new low-carbon technologies. We argue that social change and social movements may be of vital importance in the energy transition, because the energy transition implies significant systems change and systems level innovations and not just individual-level behaviour change. Therefore market segmentation models that focus on behaviour change at the individual-level are missing the systemic implications of an energy transition. Behaviour change will likely occur in the context of changing values, lifestyles, and cultural norms modulated through social contexts, including social movements.

This paper conceptualizes and theorizes the likely dynamics of social change and social movements in the context of an energy transition, explores a new empirical case study of the UK's transition movement and sets out elements of a research agenda designed to further explore these links. It does this by firstly presenting a case study, with new empirical evidence, of a civil society movement engaging in energy transitions, namely the Transition Towns movement. The Transition Towns movement provides an example of an emergent civil society movement with an agenda of instigating grassroots change directly rather than attempting to lobby or influence existing policy processes. The movement also presents its own formulations of what the end-point of an energy transition might be, emphasizing, for example, a localization of systems of production and consumption.

Insights from the case study are then used to demonstrate how the current body of theory on 'sustainability transitions' can be extended to better include and address grassroots innovations, using insights from theories of social movements, and social practice theory. By extending current theory we conceptualize how social innovations link to macro-level systems change on the one hand and individual-level behaviour changes on the other hand. From this analysis we identify elements of an interdisciplinary research agenda for the **empirical investigation of impacts** of civil society movements for transition.

1 Introduction

There is currently a growing interest in socio-technical transitions in the context of debates about how modern industrial societies can achieve more sustainable development pathways. Understanding transitions is especially important when dominant 'solutions' (and the socio-technical systems that deliver these) contribute to unsustainable development and when novel initiatives might offer more sustainable alternatives, or when we face persistent problems that cannot be solved using only the currently dominant ideas and practices. In the context of debates about sustainability, we are interested in understanding the processes and patterns of emergence, formation and competition among established and novel solutions to problems of unsustainable production and consumption. Specifically, we seek to further understand how innovative and radical solutions emerge (as socio-technical 'niches') and become sufficiently powerful to challenge and, ultimately, overthrow dominant systems (the prevailing 'regime' of production and consumption including the associated practices and set of actors) resulting in a transition.

In recent years a literature on sustainability transitions has emerged which frames social change as occurring within a multi-level perspective (MLP) of micro, meso and macro level systems (Rip and Kemp, 1998; Rotmans et al, 2001; Smith et al, 2010; Grin et al, 2010). Drawing explicitly on insights from studies of past socio-technical transitions, sustainability transitions offers both a conceptual framework and nascent management tools for understanding and governing transitions. Until recently this literature has concentrated on technological resource efficiency innovations in supply-side issues such as energy generation and infrastructure, focusing on technology producers and intermediaries, businesses and government actors. Yet this focus may be unwarranted: despite improvements in eco-efficiency, the rate of consumption growth is outweighing efficiency gains (Jackson, 2009). Production technologies alone will not meet the sustainability challenge: attention must turn to the factors which influence and might transform consumption – demand - at the individual, household and community level.

However, the sustainability transitions literature has hitherto largely neglected demand-side factors such as lifestyles, social practices and co-evolutionary formulations of normal consumption, and has neither adequately conceptualised nor understood the role for civil society in contemporary transition processes. A recent review by some of its key contributors concludes that "we acknowledge that the role of consumers and grassroots initiatives in transitions is underrated and under-conceptualised, therefore we welcome new perspectives which theorise changes in demand-side practices as motors for transition" (Grin et al, 2010:331). We aim to do just that, by asking *how might we better understand the role of civil society movements in sustainability transitions?* Our choice of subject is also motivated in part by new empirical evidence of increasingly visible civil society activity in the context of climate change and sustainability with initiatives such as the UK's Transition Town movement growing very rapidly in recent years (Bailey et al 2009).

Recent pioneering work has begun to explore the role of civil society in contemporary processes of transition and 'grassroots' innovation (Avelino and Kunze, 2009; Hess, 2007; Georg, 1999; Seyfang and Smith, 2007; Smith, 2010; Seyfang and Haxeltine, 2010). Here we follow Smith's recent work in defining civil society as "the collective activities by which people assert shared values and interests, yet contested by others... without direct recourse to market transactions or the authority of the state in the first instance" (Smith, 2010:page unknown), and aim to complement his analysis (which focuses on how civil society movements seek to disrupt and change supply-side and production processes) with an examination of the role of civil society as a source of innovative ideas and practices, focusing instead on demand-side factors and consumption.

Furthermore, there is an emerging academic and policy interest in community-based initiatives such as ecovillages, local food projects, community-owned renewable energy generation, and other projects which aim to engage people in action for sustainability (and for

carbon-reduction in particular) through community action (DECC, 2010; NESTA, 2009). There is growing recognition that community-level action for sustainability is a necessary and potentially powerful aspect of change, due to the local knowledge they capture, the social contexts for change they generate, the immediacy of their impacts, and for democratising the decision-making process around societal changes (see for example Mulugetta et al, in press).

In general, however, most policies to realise 'sustainability' transitions, as well as much academic research and theorising into how they might be achieved, have rested on essentially narrow models of society (e.g. UKERC 2009; HM Government 2009). In short, societal agency is regularly reduced to the aggregated outcomes of the more or less rational choices and actions taken by individual consumers, or 'end users', revealing their preferences in a particular market. In such models, a fundamental part of any transition pathway thus rests on informing or persuading these individuals to choose more sustainable (e.g. 'lower-carbon-footprint') forms of behaviour, and in enabling such choices by removing various barriers to their realisation.

In this paper we attempt to significantly expand this impoverished model by exploring the potential role and agency of civil society movements in bringing about such system-wide transitions. We argue that grassroots social movements may be of vital importance in the energy transition, because the energy transition implies significant systems change and systems level innovations (not just the aggregation of many individual-level behaviour changes). Therefore market segmentation models that focus on behaviour change at the individual-level are missing the systemic implications of an energy transition (see for example Heiskanen et al, in press, and Middlemiss and Parrish, in press, for more on the potential of community contexts to facilitate behaviour change). Furthermore, we make the case that a richer understanding of how behaviours and practices change within social movements can more effectively inform policy and practice (see also Shove and Walker, 2010, for an alternative utilisation of practice theory in sustainability transitions). Behaviour change will likely occur in the context of changing values, lifestyles, and cultural norms modulated through social contexts, including social movements. In other words, we will argue that *civil society-based social movements could play a significant role in sustainability transitions through their ability to develop innovative social practices*.

We begin by revisiting the multi-level perspective model of sustainability transitions, and then draw upon three distinct but potentially complementary theoretical approaches, namely: i) Grassroots Innovations theory; ii) Social Practice Theory; and iii) New Social Movement theories. Each of these, we argue in Section 2, offers new ways of expanding understandings of the role and place of civil society agency in society and, therefore, offers valuable insights for processes of societal change, and in particular transition processes. Section 3 illustrates some of the opportunities for further research with the aid of a specific empirical example – the UK Transition Towns movement. The authors have recently completed the first ever full survey of UK Transition initiatives (Seyfang 2009a,b), and have had extensive experience of engagement and research in the movement from its inception (Longhurst, 2010; Haxeltine and Seyfang, 2009). Finally, section 4 concludes by reflecting on the implications of the previous discussions, and proposes a new research agenda on sustainability transitions that emerges at the interstices of these theoretical approaches and which, we feel, opens up the space for a significantly more sophisticated conception of social agency in transition than those employed hitherto.

Our pluralistic theoretical approach draws on a range of disciplines, including cultural geography, political science, and sociology, in addition to the Science and Technology Studies basis of sustainable innovation theory: our aim is to cut across disciplinary boundaries, to generate improved understandings and theoretical insights. Our selection of theoretical perspectives is not exclusive, and Geels (2010) considers a broader range of approaches. But our aim with this paper is to offer a multiple set of relevant analytical lenses to the subject of study, to show how each brings new insights to the field which were previously lacking. Our hope is that this points the way towards a new interdisciplinary

sustainability transitions research agenda in which a more sophisticated framing of the 'social' (in macro-, meso- and micro- processes) will lead to research that better illuminates the dynamics of anticipated societal transitions towards more sustainable patterns of production and consumption.

2 Theoretical Contexts

2.1 Sustainable Innovations and the Multi-Level Perspective

In recent years a body of literature has emerged which explores the way in which innovation for sustainable development occurs. This 'sustainable innovation' literature takes a co-evolutionary perspective on changes in 'socio-technical systems', based on the inseparability of social and technological change, and the need to transform current systems onto more sustainable trajectories (Grin et al, 2010). The literature adopts a 'multi-level perspective' (MLP) of micro (niche), meso (regime) and macro (landscape) processes, in order to conceptualise how socio-technical systems change at different societal levels and speeds, through the actions of different groups of actors and institutions (Smith et al, 2010). Rip and Kemp (1998: 340) used the sociological concept of rules: "a technological regime is the rule-set of grammar embedded in a complex of engineering practices, production process technologies, product characteristics, skills and procedures, ways of handling relevant artefacts and persons, ways of defining problems; all of them embedded in institutions and infrastructures". These can be either formal rules, normative rules (e.g. norms, role expectations, behavioural values), and cognitive rules (Geels, 2002). Rules are not just in people's heads but are also embodied in institutions and infrastructure of all kinds. The landscape consists of a set of deep structural trends external to the regime, and the metaphor implies that it is easier for technical trajectories to go in certain directions and not others. The (socio)logic of the three levels is that they are different kinds of structuration of activities in local practices: niches being loose, regimes much tighter and socio-technical landscapes provide an even stronger structuration of local activities (Geels 2002, p102).

This theory argues that regimes become path-dependent and locked-in to particular pathways of innovation, and hence can only generate incremental reform along predictable directions. Radical change, it claims, must come from without the regime: from innovative socio-technical niches where new, more sustainable, social and technical practices can develop away from the selection pressures of market or other mainstream contexts. Niches' potential influence is increased when landscape pressures produce tension and cracks in the incumbent regime. Many empirical examples have been surveyed in an attempt to understand the dynamics of how niches can grow and eventually oust a dominant regime (Geels, 2005a, 2005b; Geels and Schot, 2007), and produce low-carbon energy transitions (Kemp et al, 2007; Raven and Verbong, 2009). Niches are conceived as cosmopolitan spaces where idealized versions of new socio-technical ideas and practices are disseminated and developed. These ideas are adopted, enacted and reproduced within multiple experiments (local projects). These experiments in turn develop and share best practice, institutionalize and consolidate learning, and network effectively with other societal actors, so constituting the higher-level niche itself (Geels and Raven, 2006; Raven et al, 2008). Successful niches can influence the regime (given supportive policy frameworks) through the aggregation of many small impacts when they *replicate*; they can *grow in scale* and attract more participants and actors, so increasing their influence; and finally their ideas and practices can be *translated* into mainstream settings as incumbent actors seek adaptive solutions to regime crises. Kemp et al (1998) theorise about the factors required for successful niche emergence. First, expectations about niche performance should be widely shared, specific, realistic and achievable. Second, niches should network with many different stakeholders, who can call on resources from their organisations to support the niche's emergence. Third, learning processes should contribute not only to everyday knowledge and

expertise, but also to ‘second-order learning’ wherein people question the assumptions and constraints of mainstream systems altogether.

However, there are several limitations to this approach. First and foremost is that the MLP theory has been developed through retrospective analysis of historical transitions, where a post-hoc definition of radical niche and regime is possible; present-day conditions are far harder to delineate, and boundary-setting between MLP levels is far from straightforward. Secondly, this literature generally deals with niches of *technological* innovations, developing within *commercial markets*, and there is often a strong normative interest in steering transitions and managing niches strategically in a top-down governance framework (see for example Kemp et al, 2007; Schot and Geels, 2008; Nill and Kemp, 2009). There is very little consideration given to the role of social innovation, or civil society, or to the place of agency within the MLP (Smith, 2010, is a rare exception). It is to this that we now turn.

2.2 Grassroots Innovations

Extending the sustainable innovations theories into civil society, Seyfang and Smith (2007) propose a model of ‘Grassroots Innovation’ (GI) to describe “innovative networks of activists and organisations that lead bottom-up solutions for sustainable development; solutions that respond to the local situation and the interests and values of the communities involved. In contrast to the greening of mainstream business, grassroots initiatives tend to operate in civil society arenas and involve committed activists who experiment with social innovations as well as using greener technologies and techniques” (Seyfang and Smith, 2007: 585). Examples pertinent to the study of energy transitions (in particular energy consumption) are manifold, and include local food-growing projects, community-based carbon-reduction groups, local currencies, low-impact housing groups, furniture re-use projects, novel waste-avoidance mechanisms such as Freecycle, and so on. These tend to focus on social experimentation and developing new sets of social arrangements and institutions, in place of technology-heavy innovations. And their radical experiments tend to embody what has become known as ‘new economics’ visions of sustainable development (representing new systems of provision which embody alternative measures of wealth, value and progress – see Jackson (2009) and Seyfang (2009c)), rather than conventional reformist views of sustainability such as those reflected in mainstream sustainable consumption policy (DEFRA, 2008).

Following Smith’s discussion of the role of civil society in sustainability transitions (Smith, 2010), we can discern three key areas where change might be promoted (to be clear: all GIs are within civil society, but civil society’s repertoire of action in relation to sustainability transitions is much wider and is not necessarily of the GI type). First, this is through the *diffusion of innovative niche ideas and practices*, which successfully compete with regime practices, and so become widely adopted and hence accrue significant influence (for example organic food). Second, civil society can act to *unsettle the regime*, through lobbying and protests, and so prompt incremental reform of regime institutions, and simultaneously open up cracks in the regime which encourages regime actors to seek new solutions from niches (for example the fair and ethical trade movements). Third, civil society represents, and constitutes, general *landscape-level cultural trends*, and these can prompt relatively rapid and effective regime changes given the right conditions (such as with the (top-down) prohibition of smoking in public places and the (bottom-up) campaigns to embarrass companies that use sweatshop labour). Of course, these lines of action may well overlap and reinforce each other, working on several fronts at once.

Here, we will focus primarily on the first set of these community-based activities (niche practices). Viewing these activities as *innovative* (in that they are experimental embodiments of quite different socio-technical arrangements, values and rationales to mainstream practices, and following Rogers (2003) that innovation is an idea, practice or object that is perceived as new by an individual or other unit of adoption) allows us to consider the scope for diffusing their innovations into mainstream society, theorise about their capacity to act as

agents of change in sustainability transitions and learn from existing knowledge about strategic niche management. This GI model thereby frames civil society movements as agents of change within socio-technical systems; however, GIs have characteristics, benefits and challenges which are distinct from those normally considered in the niche-management literature, with implications for practice and diffusion. In contrast to profit-driven, market based, 'managed' niches which tend to be technology-based, they are value-driven, relying mainly on volunteers and grant-funding, operate outside mainstream markets, more likely to focus on social innovation, and are 'bottom-up' self-organising. The benefits of GIs for sustainable development derive principally from their creation of a space for the development of new ideas and practices, for experimenting with new systems of provision, for enabling people to express their 'alternative' green and socially progressive values, and from the tangible achievement of environmental and social sustainability improvements, albeit on a small scale (Seyfang and Smith, 2007). Conversely, the main challenges faced by GIs are related to the struggle to maintain a viable sustainable socio-technical space within a wider unsustainable regime. This translates into issues around securing funding, which in turn affects possibilities for institutionalisation and consolidating learning, managing organisational change, making effective links and networks with other societal actors, and the difficulty of diffusing fundamentally oppositional ideas into wider society (Seyfang, 2009c; Smith, 2006, 2007). In summary, GI theory illuminates several key aspects of niche-development and growth that are pertinent to civil society-based agency for transitions, and makes useful suggestions about how they might flourish and grow, to increase their impact. It leads us to argue that *sustainability transitions involves civil society-based social movements developing innovative social practices*.

This GI model expands the MLP in two key ways: i) by expanding agency beyond the 'usual suspects' of government and business to suggest that community groups or civil society organisations also possess the agency to innovate and impact upon transitions processes; ii) by illustrating a need to think about innovation more broadly than just in terms of technological development occurring in the market economy, and instead to consider social innovation and practices, occurring in civil society. These are both major advances, but its origins in technologically-focused innovation studies means it has relatively little to say about questions of civil society agency, or about how these social innovations might proliferate and spread. Greater explanatory power is needed to address two particular aspects of GIs within the MLP, with relation to civil society. First, we need to know more about how local niche practices interact with the regime, and about how social contexts and alternative framings influence the ability of new niche practices to spread. SPT is drawn upon in the following section, to address this point. Secondly, civil society movements are never universal or homogenous, yet they must reach a critical mass to influence a transition. Therefore we need to know more about the factors determining who joins these movements and why, and for this we turn to theories of social movements in Section 2.2.2, which offer an explanation of landscape-level changes which in turn influence civil society actors' participation in community-based innovative initiatives.

2.2.1 Spreading Innovative Practices: Insights from Social Practice Theory

Social Practice Theory (SPT) emerged as an attempt to find a middle-level between structure and agency (Giddens 1984), but it is only more recently that the 'practice turn' (Schatzki et al 2001) has led to it being addressed as a coherent body of thought in its own right (eg Reckwitz 2002; Shove and Pantzar 2005; Warde 2005; Spaargaren and van Vliet 2000). Whilst definitions of practice vary, there are some common themes upon which most practice theorists would agree. First, that practices contain within themselves various forms of knowledge, skills, understanding and forms of emotional engagement and that through repeated performance this becomes embedded and embodied within practitioners. Crucially, therefore, these entities are components of, and belong to practices themselves, rather than residing solely inside individuals' heads. Second, that practices always involve the integration of both human and nonhuman, social and technical, elements. Understandings of social agency which neglect its sociotechnical nature are thus blind to vast swathes of both social

order and change. Third, and most importantly, that practices themselves, rather than individuals or broad social structures, should be the key unit of analysis in the study of society.

Such a view fundamentally alters the ways in which social life is understood and can be researched. Individuals, for example, are no longer either passive dupes beholden to broader social structures, or free and sovereign agents revealing their preferences through market decisions, but instead become knowledgeable and skilled 'carriers' of practice who at once follow the rules, norms and regulations that hold the practice together, but also, through their active and always localised performance of practices, improvise and creatively reproduce and transform them. Here we adopt Shove and Pantzar's (2005) approach which conceives of practices as made up, reproduced and transformed through the active assembly of three different kinds of elements: images (meanings, symbols), skills (forms of competence, procedures) and stuff (materials, technology). Importantly, this view stresses that practices survive and are stabilised through their repeated performance by practitioners, reinforcing the links between the elements. Practices are thus seen to be formed, changed and ultimately killed off as these links between elements are challenged, broken and re-formed. Social change and transition is therefore understood as occurring through changes in the way the elements of practices are assembled by different groups of practitioners (see Røpke, 2009 for a discussion of practice theory in relation to consumption and social change).

In this way, SPT offers a detailed understanding of how civil society agency is involved in innovation processes, because it directs attention to the constant assembly and re-assembly of the elements of practices in their always localised performance. In short, it looks towards the 'doings' of practice, by civil society movements just as by any other group of practitioners, and asks how these evolve and change over time and in different spaces. As such, it conceives of innovation as the making and breaking of links between the elements of practice. Innovation in practice is therefore seen as a truly sociotechnical process as it can derive from both the social and the technical elements of a practice. Agency is thus conceived as distributed throughout these elements as they cohere in particular assemblages. It is not the sole 'possession' of practitioners themselves (whether in civil society groups or elsewhere), but shared between the elements that make particular 'doings' possible. For example, forms of change and innovation may occur as new skills are developed to address specific challenges, as new images or meanings are adopted, and as the stuff of practices breaks down, is improved, gets replaced or is simply used in novel ways.

A SPT approach challenges ideas of a sociotechnical hierarchy (levels in society) and argues instead that all of social life is comprised of sociotechnical practices operating at different levels of reach and stability, but essentially made up of the same elements (cf. Pantzar and Shove 2006). While this might initially appear to contest the MLP, a more nuanced analysis is less clear cut. As described above, the MLP (as originally conceived) perceived different 'levels' not hierarchically, but rather as representing different degrees of structuration from loose and flexible in niches, to highly structured in landscapes. This concept has distinct affinities with explorations of practices that explore their reach and stability in different, 'circuits of reproduction' (Pantzar and Shove 2006): where 'reach' refers to the spatial extent of the practice, and 'stability' refers to the constancy and strength of its reproduction over time. Therefore, what the transitions perspective sees as a niche, SPT would see as just another space in which practices are performed but, crucially, one in which it is easier to challenge and break existing links between elements of practices and to experiment with novel new assemblages. Hence, we argue (away from the latter managerialist transition management implementations of the MLP), that there may exist strong complementarities between social practice theory and original conceptions of the MLP that warrant serious investigation, and that studies which simply polarise these theories may be less than helpful.

In the context of energy use and energy transitions, therefore, SPT directs attention away from both the more or less rational decisions made by individual consumers and the design

and construction of massive technical systems, and towards the ways in which energy consumption is implicated in the normal, inconspicuous, routinised and performances practice that make up everyday life (Shove et al 1998; Shove 2003, Warde 2005). Towards, for example, the organisation and evolution of practices such as cooking, cleaning, washing, working and playing in which energy is implicated, and which it supports. As Shove asserts, a practice-based approach contends that “patterns of consumption follow from the routine accomplishment of what people take to be ‘normal’ ways of life.” (Shove 2004, 117). This is a fundamentally different view of the relationship between energy and society, and one which, we feel, helps to clarify both the importance of social agency, as well as the broader sociotechnical systems of which it is but one component part.

So, this approach offers an alternative understanding of the potential role of civil society in sustainability transitions. Civil society is not interesting because it ‘possesses’ agency and uses it to act upon the regime (either by unsettling it or by incubating alternatives), but because it becomes another localised space (just as the regime also comprises local performances of practices in particular spaces), but one in which oppositional and experimental practices might be more easily assembled. Exploring how these alternative assemblages are made, how they differ from practices that exist in other spaces, and how they might recruit practitioners/or encourage them to defect from other ‘regime’ based practices, thus become the core questions at the heart of transition processes. Furthermore, understanding the dynamics of assembly between the elements of practice offers, at least, a mechanism through which innovation and transitions ultimately occur. In this respect, SPT might add some granularity to the black box of innovation in the sustainable innovation approach. Further still, by questioning the ability of practitioners to get outside or escape from the practices they perform (Shove and Walker 2007) it challenges the ‘god’s eye view’ of much transitions theory suggesting instead that attention should be paid to practitioners’ (including those involved in social movements) own localised experiences of performing and attempting to re-form practices. This is a significant departure from the sustainable innovation literature, and we feel it has the potential to improve the detail and subtlety of analyses first, by conceiving of agency as distributed throughout the sociotechnical elements of practices and therefore pointing analyses towards the inter-relationships between the multiple different elements of practices rather than towards either technology or individuals and, second, by leading analysis away from a narrow, and managerialist focus on ‘energy’ or ‘carbon’ for example, and instead towards an understanding of the many elements that support and are integrated in particular doings of practices (e.g. cooking, washing, travelling etc).

2.2.2 Growing Innovative Niches: Insights from Theories of Social Movements

Given our interest in the role of civil society in sustainability transitions, it is perhaps unsurprising that we turn to theories of social movements. Research into social movements and their ability to bring about transformative change has a long and established tradition with substantial literatures (see e.g. Bate et al., 2005 for a recent review). Social movements may be conceived of as ‘temporary public spaces, as moments of collective creation that provide societies with ideas identities, and even ideals’ (Eyerman and Jamison, 1991: p4). The empirical case study on which this paper focuses - the Transition Towns movement - can be regarded as one example of a wider group of newly emerging ‘post-carbon’ social movements that are focusing specifically on energy and sustainability transitions. Other examples from the UK include the Carbon Reduction Action Group (CRAG) movement (Webb 2008) and the ‘direct action’ tactics of groups such as Plane Stupid, Rising Tide and Climate Camp. There is also evidence that these groups might reflect instances of a wider ‘global’ movement: for example, the ‘grassroots’ Klimaforum 09 conference which ran alongside the United Nations COP15 Climate Change negotiations in Copenhagen attracted in excess of 50,000 attendees (Monbiot, 2009). The relatively recent emergence of these movements means that little detailed academic work has yet been done on their significance or impact. However, their apparent growth raises questions about the roles that they might play in transitions to sustainability.

Bate et al (2005) identify several broad schools of thought in the analysis of social movements; two areas of theory which are particularly relevant to this discussion are Resource Mobilisation (RM) and New Social Movements (NSM). The former, RM theory, developed especially during the 1970s and 1980s with a focus on "rational action and structural opportunities for movement emergence" (Bate et al., 2005). In broad terms the approach tends to focus on how the leaders and activists in social movements arrange and coordinate the use of resources in order to produce quantifiable outcomes in terms of impacts on the political process or other parts of society. It is especially interested in direct, measurable impacts of movements on political issues, and (traditionally at least) less interested in the expressive, ideological, identity-shaping and consciousness-raising dimensions of movements. It remains an influential approach among sociologists for the analysis of social movements, though it has been challenged in recent years for: the use of a rational actor model of social agents; neglecting the normative and symbolic dimensions of social action; and, not adequately explaining the processes of group formation. Smith (2010) has recently provided an analysis of how resource mobilisation theory might be used to conceptually extend the MLP by analysing civil society's ability to recruit resources to lobby for regime change; in this paper we take an alternative approach. The focus of our analysis is on the potential of NSM theories to conceptualize the role of social movements in contemporary transition processes.

The NSM theories emerged as a critical response to the 'economism' of the RM approach, and the inability of classical Marxism to fully explain the social movements of the 1960s and 1970s (Buechler 1995, 2000). The 'newness' of the so called 'new' social movements relates to the emphasis on group (or collective) identity, values and lifestyles, and a tendency to emerge more from middle than working class constituencies. Relevant movements include those focused on environmental and peace issues, feminism, and alternative non-consumerist lifestyles; these movements, it is argued, are qualitatively different from those of the 'industrial' age (Melucci 1981). NSM theorists emphasize a change in the economic structure of the First World from an industrial, heavy manufacturing based "Fordist" (after Henry Ford's assembly line) to a "post-industrial" (or "postmodern" or "post-Fordist") economy centred more around the service sector and computer-based information industries; this shift is identified as a structural force shaping the new social movements (Mayer and Roth 1995). NSM theorists (including Habermas, Touraine, Melucci) have sought to situate their theory firmly in an understanding of society more generally. They have tended to focus on the way in which macro-social structures 'produce' social movements; instead of the 'how' (of RM theories) they tend to address the question of 'why'.

In addressing this 'why' question NSM theorists draw on notions of 'culture' (as shared ideas, beliefs, meanings, interpretations, outlooks) and 'identity' (both individual and group identity). Cultural and identity politics are then seen as playing a central role in generating and sustaining movements (Bate et al, 2005). They seek to identify both the key movement clusters belonging to any given era, and the main structural tensions which those movements formed around, providing a focus on cultural issues and framing processes (ibid). Creating a movement is seen as essentially a cultural enterprise - an idea only moves a group if it has a cultural resonance. There is an emphasis on the interactive social processes within which people talk, argue, debate and build relationships, and through these interactions develop identity and purpose (ibid). Finally, there is a tendency to highlight the role of 'crisis' in contemporary capitalist societies and to conceptualize collective actions as rational responses to such crisis.

The strength of NSM theories could be said to lie in their ability to identify long-term transformations that create new conditions (structural, political, cultural) that can in turn stimulate the emergence of (new) social movements. Sustainability Transitions theory may sometimes be criticized for appearing to assume that the major current landscape trends relate to problems of environmental un-sustainability; an important contribution of NSM theory is to describe an ongoing crisis of modernity that implies multiple landscape pressures and in which the 'environmental crisis' is just one symptom of many that affect processes of identity formation, the construction of cultural meaning, social organisation and social

cohesion (in addition to the problems of energy and resource use). We suggest that these additional dimensions of 'the crisis' are now very relevant to sustainability transitions, not least because they help shape the landscape contours, and hence the trajectories of socio-technical development.

NSM theories then can help to deepen research on sustainability transitions by questioning the assumption that 'sustainability' is a normative goal that social actors will and should aspire to, and providing a way to conceptualize the broad societal trends, goals and aspirations that influence any attempt to achieve a sustainability transition. They provide a way to anchor research on the role of civil society (in transition processes) within fundamental theoretical debates about the structural tensions being played out in (post-industrial) societies undergoing such transitions. They are of use in helping to frame the processes of symbolic production, creation of cultural meaning and constitution of new identities that penetrate social movement activity in contemporary post-industrial societies. Potentially such theories might be applied to provide insights into why citizens may choose to become active in one form of social movement but not another.

This section has explored the potential complementarities between GI theory, SPT and NSM theories. We argue that the contributions SPT can make by providing a detailed and grounded mechanism through which innovation and diffusion of innovative practices occurs, and NSM theory can make regarding identifying and contextualising the impetus for transitions, are of potentially vital importance in improving conceptualisations of civil society agency in transition processes. The next section illustrates the potential of these approaches by applying them to a specific empirical example: the Transition Towns movement.

3 Applying the theories to a transition-oriented social movement

In this section we employ an empirical example of a civil society-based social movement (the emerging international Transition Towns movement – coincidentally named, but not intentionally linked to Sustainability Transitions theories) to assess and illustrate the explanatory utility of these theories when applied in parallel. The authors have recently completed the first full survey of UK Transition initiatives (Seyfang 2009a,b), and have extensive experience of engagement and research in the movement from its inception (Longhurst, 2010; Haxeltine and Seyfang, 2009).

The Transition Towns movement aims to mobilise community action and foster public empowerment and engagement around climate change, with the objective of preparing for a *transition to a low-carbon economy* (www.transitiontowns.org). The movement is a network of grassroots place-based Transition initiatives (towns, villages, cities) that are actively preparing for a post-carbon future. It sees the impetus for radical socio-technical system transformation as the twin drivers of climate change and peak oil: "climate change says we *should* change, whereas peak oil says we *will be forced to* change. Both categorically state that fossil fuels have no role to play in our future, and the sooner we can stop using them the better." (Hopkins, 2008:37). The movement can be conceptualised as a grassroots environmental movement which has a strong emphasis on Permaculture and 'relocalisation' (Bailey et al 2009). Its particular emphasis is to mobilise people around place-based identities (Transition initiatives) and, through grassroots activism, plan and develop the Parallel Public Infrastructure (Darley et al 2006) that it believes is necessary for a post-carbon world.

The range of issues addressed by Transition initiatives are wide-ranging and ambitious, covering economic, social, environmental and personal systems of production and consumption. Transition initiatives are involved with many locally-based activities which aim

to reconfigure social practices around energy consumption, for example establishing locally-owned renewable energy companies, promoting locally-grown food, encouraging energy conservation, exemplifying low-carbon living, and building supportive communities around these activities. There is a strong emphasis on the development of new practices within Transition Towns as well as the rediscovery of old ones through reskilling. There are a number of innovative practices which have spread within the movement for example seed swapping, garden-sharing schemes and the usage of local currencies. The Movement proposes a '12-step' action plan that includes forming a core group, raising awareness through filmshows and discussions, beginning processes of visioning a sustainable future, using participatory techniques, linking with other local organisations, and so on. Rebadging existing local environmental groups and activities, the Movement presents a package that has been very successful at attracting media and political attention (Hopkins, 2008; Brangwyn and Hopkins, 2008; Transition Network, 2008; Seyfang 2009 a, b).

The movement takes the form of decentralized local groups, connected through an international Transition Network. It has grown rapidly from its inception in 2006, to over 150 local groups in the UK by spring 2010, plus over 100 others around the world (Transition Network, 2010). Local groups are nearly always established by individual volunteer activists, and generally comprise a core of volunteers who meet regularly, and seek to engage and mobilize public action around carbon-reduction through awareness-raising and practical initiatives. Although the organisers and 'members' tend to be committed community activists, ultimately the aim is to establish new systems of provision, which would thereby enroll wider, more diverse publics in low-carbon lifestyles (Seyfang, 2009a,b). How successful has it been to date? Transition Towns has been very successful at *replication*, spreading rapidly around the UK and further afield, but it has been less successful at *scaling up* (groups consistently report a need to grow beyond a core of committed green activists) and *translation* (core aspects of low-carbon lifestyles are not widely adopted in the population) (Haxeltine and Seyfang, 2009). We now turn to each of our theoretical frameworks to shed explanatory light on this Movement and its development to date, and make predictions about how it might develop in future.

3.1 Grassroots Innovations: Niche Processes and Development

GI theory sees the Transition Towns movement as an innovative niche (comprising Transition initiatives and Transition-related activities) where new resilient low-carbon infrastructures, practices and ideas can be developed. Furthermore, it aims to diffuse these innovative ideas and practices into wider society, and eventually displace the regime. Empirically, the unit of analysis is the Transition Towns movement itself, and GI theory lets us examine how the movement performs in terms of its niche-development processes, and the key factors of expectations, networks and learning to explain its development to date and make predictions and recommendations for future action.

First, our research indicates that while shared long-term post-oil visioning is a key element in *internal* movement-development, and expectation-management is taken very seriously by the Transition Network in terms of branding and so on (Transition Network, 2009), *externally* there is often a lack of tangible and achievable goals for people to engage with. This alienates potential supporters and demoralises initially enthusiastic activists, who find that the groups consist largely of talking shops where activists promote their visions of the future, but with very little tangible action available to make it happen. Consequently, groups need to focus on offering realistic, practical and short-term actions and goals – and alternative systems of provision - for members and the public to engage with.

Second, we find that the Movement is very well-networked internally, with a strong, funded Transition Network which provides institutional support by consolidating learning, sharing best practice, and offering training and practical support to local groups (Hopkins and Lipman, 2009) – thereby overcoming a key stumbling block for many grassroots innovations (Seyfang and Smith, 2007). However, there is less evidence of effective external networking, and groups need to concentrate on building resourceful links with a variety of stakeholders in society – something that perhaps might not appeal to deep green environmentalists aiming to

bypass regime actors. Lessons from previous niche experiments which have grown and become translated into mainstream practices - such as organic food (Smith, 2006) suggest that this process will involve some dissolution of the original aims and objectives of the niche, as mainstream actors incorporate the innovative niche ideas and practices, but that the niche will be reinvigorated, continuing to innovate and propagate new ideas.

Third, a key aspect of the Transition Towns movement is second-order learning. As an example, whereas first-order learning might entail choosing more energy-efficient appliances such as fridges, what we see within the Transition Towns movement is a tendency for people to question the need for those appliances in the first place, and to experiment with ways to live within modern society without fridges and freezers, items often considered 'essential' (Shove and Southerton, 2000). The Transition Towns movement engages enthusiastically with this second-order learning internally, with codified training for group organisers which reinforces the movement's perspective. In addition, a key external-facing activity is 'awareness-raising' about the systemic problems we face, and the disruptive changes ahead. However, this cognitive approach to triggering behaviour change has limited effectiveness and reach. To increase its impact, the movement needs to adopt other approaches, such as social and experiential learning – as have been pioneered in a few local groups – to achieve this goal more effectively (Seyfang and Haxeltine, 2010).

In summary, we can see that GI theory – in drawing on the strategic niche management elements of Sustainability Transitions theories and the MLP - offers some useful insights into the operations, successes and limitations of this civil society movement for energy transition. It points to lessons and action points for practitioners to potentially strengthen their niche-development and diffusion processes, and thereby increase their agency. However, there are gaps in our understanding of this civil society movement, specifically around questions of how new ideas and practices (social innovations) are developed, catch on and spread, and around how these niche movements might hope to influence wider society. Now we turn to our complementary theories to reframe the empirical questions, extend and deepen our analysis, and offer fresh insights into the processes at work in terms of how these innovative practices are spread, and who joins these groups.

3.2 Spreading Innovative Practices: Insights from Social Practice Theory

As we have previously argued, SPT shifts focus to concentrate not on the institutional niche of local organisations, but rather on niche spaces as local arenas for the development of new practices. Here, the practices are the unit of analysis. Framed in terms of SPT, our empirical case of the Transition Towns movement (in its attempt to cope with the twin challenges of peak oil and climate change) presents a critique of the dominant social practices in society and the consequences they entail. Further, in their place, and through a range of means including meetings, film viewings, teaching gardening and cooking skills, establishing new and local energy companies, the Transition Towns movement seeks to create and expand a range of wholly new, more sustainable and low-carbon practices. A key insight of social practice theory, however, is that both orthodox and innovative sets of practices consist of the same elements (images, skills and stuff) being actively and dynamically linked through the continued performances of skilled practitioners (cf. Pantzar and Shove 2006). The question this poses, therefore, is how the newly created low-carbon practices can be made to operate effectively enough and to recruit enough practitioners to displace high-carbon practices or, alternatively, how well-established practices may be actively challenged such that the close links between the elements involved may be broken and practitioners may be encouraged to defect – for it is in this way that SPT interprets the challenge of spreading the innovative ideas and practices that occur within local Transition initiatives.

More specifically, a SPT-based understanding of Transition Towns activities suggests that, despite the radical social critique the movement offers, much of the current activity that occurs within it rests on a narrow view of social change. As noted above, much of the movement's activity focuses on 'awareness-raising' and uses cognitivist understandings of individual behaviour of limited effectiveness (Burgess et al 2003). Whilst such approaches may therefore challenge and seek to replace the images/meanings involved in mainstream

practices, they do nothing to address the skills/competences or stuff/technologies of practices that are equally important in their successful (re)production. SPT thus points the Transition Towns movement towards activities and social experiments that seek actively to re-assemble the images, skills and stuff of unsustainable practices in new, more sustainable ways. Vitally, such an insight also reveals the profound limitations the movement may experience if it operates only in isolation. For example, making the energy infrastructure or domestic energy-consuming appliances more sustainable on a large scale is beyond the capacity of even the most successful local Transition initiative. SPT therefore calls upon the movement to identify the many stakeholders involved in modulating, influencing and shaping all of the various elements of practice, and to seek new kinds of partnership and collaboration that shift and re-combine these elements in new ways, with all the necessary politicking this will entail. Here we can see a strong complementarity with Strategic Niche Management's call for niches to form diverse, resourceful networks to help diffuse their innovations. SPT contributes an insight that these network partners should not simply be instrumentally resourceful – policymakers, businesses, local authorities, schools etc – but should be considered in a much broader frame of reference, as being any actor that influences current practices. For example, efforts to increase home cooking will need to intersect with current cooking practices, which are shaped by media cultures, home appliance manufacturers, food processors and retailers, and so on.

Further still, a practice-based understanding suggests a need for a much more fine-grained analysis of both the practices that the Transition Towns movement proposes, and those they seek to replace. If the issue is no longer as simple as convincing rational, atomised individuals to start making different decisions, but instead about dismantling existing and constructing wholly new bundles of social practices, further attention should be paid by the movement to precisely what it is that holds existing practices together. This demands an appreciation of the local performances of whole bundles of practice across a range of social contexts (households, workplaces, public spaces etc) to understand the active processes of integration that are involved in their constant reproduction. For example, it suggests a need to investigate what is involved in sustaining the whole bundle of practices (e.g. cooking, washing, watching TV, reading, computer gaming etc.) that make up even a single household's daily routine and which, on the surface at least, have absolutely nothing to do with either energy or carbon. How do these practices co-exist, cohere or conflict? What different and cherished values do they help realise? How do they evolve and change over time? And what might be involved in negotiating changes and 'domesticating' new and more sustainable technologies or practices (e.g. Hargreaves et al, in press)? A SPT perspective thus illustrates that transitions processes will extend deeply into the inconspicuous and normally unquestioned habits and routines of everyday life, and will demand the active involvement, rather than passive co-optation, of all sectors of society.

3.3 Growing Innovative Niches: Insights from New Social Movement theory

Many of the core ideas of the Transition Towns movement have been 'recycled' and adapted from the broader Countercultural movement which first gave rise to the NSMs in the 1970s (Watts 2001). NSM theories can be used to help place contemporary movements in a recent historical context thereby deepening our understanding of the role of such movements in sustainability transitions. While GI theory employs strategic niche management to explain niche processes and prospects, it says little about *who* joins the movements and *why*, and *how* this might impact on the potential for the growth of a niche. NSM theory, in contrast, emphasizes the interactive social processes within which people talk, argue, debate and build relationships, and through these interactions develop identity and purpose (Bate et al. 2005).

The promise of new 'green' identities and lifestyles can be seen as a key attraction of the Transition Towns movement for some participants. In our own experience as participant-observers in the movement it has seemed very clear that what is at stake is not just questions of material consumption but also individuals seeking to explore and articulate new

identities; in particular, participants are often explicitly striving to bring a greater group or cultural meaning back into simple everyday practices such as buying food, cooking, baking, eating, and walking. This has been particularly apparent in food growing initiatives where the social and community aspects are seen as being key and where participants often speak of how empowering they have found growing their own food to be.

The Transition Towns movement has arguably been successful over a very short period of time because it proposes and promises a way of achieving new 'green' identities that a significant minority of the UK population appear to be seeking. Perhaps the open-endedness and vagueness of the framing of the movement in the use of terms such as 'resilience' and 'transition' has contributed to the appeal of the movement (Haxeltine and Seyfang, 2009). By providing a broad, attractive but largely unspecified framing of its central terms of 'transition' and 'resilience' the movement attracts people seeking a diverse range of 'alternative' identities. The movement has brought together activists, 'greens', allotment enthusiasts, cycle campaigners, etc, etc from a wide range of backgrounds. The movement thus has a strong role in linking together people who have been quietly working away on specific green issues for years. In the short term this can be said to have been a great strength but in the longer term the movement needs to engage with a wider mainstream public in order to bring about lasting change.

If Transition Towns can continue to provide a way for people to construct and express desirable identities then (we can hypothesize that) it could continue to grow rapidly. In its present form however it does not seem to be quite able to present a "green identity" that is attractive to a more mainstream audience. Employing NSM theory to help better understand Transition Towns as a cultural and political entity might help to better explain its potential limitations in reaching out beyond the 'usual suspects' of middle class green activists. To do this we can speculate that it might need to morph and mutate together with other forms of cultural and artistic movement (music, youth culture, etc). Yet perhaps such evolutions might present a risk in alienating the 'core' membership who support the stronger expression of its values. The notion of identity as used in NSM theories might therefore provide a way of exploring why people are (or are not) engaging with the movement in a way that is transcendent to the rather stifling discourses about inducing 'behaviour change'.

The Transition Towns movement can be seen more broadly as a response to macro-social pressures that are increasingly recognised as resulting from what might loosely be called the 'crisis of capitalism'. Explicitly the movement was initially framed around the threat of 'Peak Oil'; then following a popularizing of the climate change issue, through e.g. Al Gore's film the *Inconvenient Truth* and the Stern Review in 2006, the goals of the movement were reframed around the *twin* challenges of climate change and Peak Oil. During 2010 there have been signs of a further reframing of the movement's explicit goals to also include a response to the ongoing economic and financial crisis. Participants in Transition Towns however can be clearly seen to be joining the movement as part of their own attempts to construct new identities, lifestyles and cultural meaning in response to their direct experience and/or perception of broader macro-social pressures (Haxeltine and Seyfang 2009; Seyfang 2009b). Thus participants join for a wide variety of reasons: some are motivated primarily by concerns over climate change, Peak Oil and/or the economic crisis, while others are worried about the breakdown of social cohesion, their own livelihoods, how to cope with growing old, global equity and fair trade, the loss of meaning in contemporary society, and/or other perceptions of 'something being very wrong'. The formation of so called 'Heart and Soul' groups in most Transition Towns provides one good illustration of this point, these groups explicitly identify a need to work with the 'inner dimension' of transition and see the Transition Towns movement as in part a response to an existential and spiritual crisis that is fundamentally connected to the energy and resource crisis. The application of NSM theories within a transitions perspective thus provides a way to link analysis of macro-social trends with the micro-level interactive social processes within which participants in the movement talk, argue, debate, build relationships, and engage in ongoing or renewed social practices.

4 Conclusions

This paper has argued that civil society deserves greater attention as a site of potential agency in sustainability transitions, and has employed GI theory to explain how innovative social practices which develop in civil society-based green niches might achieve this. Our contribution has been to offer conceptual resources to help frame research on sustainability transitions that better addresses the agency of civil society: GI theory can be usefully complemented by both SPT and NSM theory in analysing the role of civil society in contemporary transition processes.

We demonstrated the increased explanatory power of this expanded analytical approach using the example of the UK's Transition Towns movement. GI theory, drawing on strategic niche management, points to the importance of niche processes of learning, visions and networking in influencing niche growth and diffusion into the mainstream. But it fails to address questions of how exactly social innovations catch on and spread, and who joins these groups and why. SPT illuminates the micro-processes of developing new social practices which is the core purpose of the niche, and points to a need to examine how old practices are dismantled, and new ones assembled, in order to understand whether and how these niches grow. This highlights that spreading socio-technical innovations is more than winning hearts and minds, and more than an individualistic rational cognitive enterprise. Context, culture and community all matter. Additionally, theories of NSMs point to landscape-level cultural trends (eg environmentalism, postmaterialism, consumerism) in generating a need for civil society-based movements to express participants' identity and purpose. This theory suggests that the grassroots innovative niche's diffusion is limited by the extent to which it can offer an attractive identity to potential participants, and that initially explosive growth will struggle to expand into mainstream audiences without attending to these issues.

From this preliminary analysis we identify some indicative elements of a research agenda for the further *empirical investigation* of the agency of civil society in contemporary transition processes. We believe it would be valuable to set up an experiment or empirical case study using these multiple conceptual frames: for example taking an interdisciplinary, multi-method approach to investigating the activities, framings and impacts of a civil society-based green niche such as the Transition Towns movement through ethnography, elite interviews, participant observation, surveys and impact analyses. A pragmatic exploration of this type would be the first step towards a potential integrative theory or modification of existing theories¹. The following research questions might usefully be addressed through such a study:

- How do GIs form niches, and how do these consolidate, develop and diffuse? What are the successes and challenges faced by GIs?
- Which elements of strategic niche management approaches are usefully transferred to civil society contexts, and what further factors might be included to reflect this different context? To what extent does the 'niche' represent a value-adding abstraction in attempts to understand the activity of social movements in transition processes?
- How are transition-oriented social movements acting as spaces where new social practices are being formed, stabilized and extended? How do practices' careers (from proto-practices, to practices, to ex-practices) develop and advance, and what brings

¹ In an effort to progress research on civil society agency in transitions processes, we have stressed the potential complementarities of these various theories, we are well aware that there are also areas in which they may conflict, particularly around conceptions of individual agency, for example. These questions deserve further exploration, but are beyond the scope of this paper.

about the move from one stage to the next? How are practitioners recruited to new practices (or how they are encouraged to defect from others)?

- What can SPT say about the transition to a low-carbon energy system, which will demand widespread changes in multiple adjacent and interlocking bundles of practices (rather than single practices as the literature has mainly examined to date)?
- Where and why might cultural forces arise to provide an impetus to civil society-based action for sustainability? How do these factors play out in terms of driving participation in grassroots innovations, and what does this mean for future niche growth?
- How does NSM theory question the normative notion of 'sustainability' in sustainability transitions? What are the implications for the Sustainability Transitions literature of a perspective whereby whether at the individual, group or institutional level societal actors are likely to have a range of normative goals and desires that may only fit loosely with any 'rational' notion of sustainability?
- Finally, this paper has focused on the complementarities and added value from approaching sustainability transitions from this multi-lensed perspective. Future research will usefully concentrate on where there are areas that the theories can be integrated for considering civil society's role in transitions, and where the theoretical approaches fundamentally conflict, eg over questions of structure and individual agency.

Continuing to explore 'post-carbon' social movements through the Grassroots Innovations lens will, we believe, further our understanding of how civil society might be playing a role in energy-focused sustainability transitions and the extent to which this can be harnessed or 'managed'. In the context of energy transitions, and the challenges posed by climate change and peak oil, for example, such questions would appear to demand further research attention as a matter of some urgency. We suggest that it can be enriched through further engagement with the theoretical approaches that we have employed in this paper; furthermore, our expanded analytical approach helps to situate research on sustainability transitions within broad theoretical debates about the structural tensions currently being played out in our societies. We have begun to outline an important research agenda, which takes civil society seriously and recognises its potential role as a driver of sustainability transitions, and we anticipate a vibrant and lively debate as this research unfolds over the next few years.

References

- Avelino, F. and Kunze, I. (2009) 'Exploring the Transition Potential of the Ecovillage Movement' paper presented at the KSI *European Conference on Sustainability Transitions*, 4-5 June, Amsterdam
- Bailey, Ian, Rob Hopkins and Geoff Wilson (2010) "Some things old, some things new: The spatial representations and politics of change of the peak oil relocalisation movement", *Geoforum*,
- Bate, Paul, Helen Bevan, and Glenn Robert. (2005). *Towards a million change agents. A review of the social movements literature*. Available at - <http://eprints.ucl.ac.uk/1133/1/million.pdf>
- Brangwyn, B. and Hopkins, R. (2008) *Transition initiatives Primer* version 26 (Transition Network, Totnes)
- Buechler, Steven M. (1995). NEW SOCIAL MOVEMENT THEORIES. *The Sociological Review*, 36 (3), 441-464.
- Buechler, Steven M. (2000). *Social Movements in Advanced Capitalism*. Oxford University Press, 2000, 240 pp.
- BURGESS, J., BEDFORD, T., HOBSON, K., DAVIES, G. & HARRISON, C. (2003) (Un)sustainable consumption IN BERKHOUT, F., LEACH, M. & SCOONES, I. (Eds.) *Negotiating environmental change: New perspectives from social science*. Cheltenham, Edward Elgar. pp.261-292
- Darley, Julian, David Room and Celine Rich (2006) *An Action Handbook: Ideas for Relocalizing our Communities* downloaded from <http://www.relocalize.net/files/Action%20Handbook%202006.pdf>
- DECC (2010) *The Low Carbon Communities Challenge* (DECC, London)
- DEFRA (2008) *A Framework For Pro-Environmental Behaviours* London, DEFRA.
- Eyerman, R. and Jamison, A. (1991). *Social movements: a cognitive approach*, Oxford, Polity.
- GEELS F W (2002) *Understanding the dynamics of technological transitions: a co-evolutionary and socio-technical analysis*, Enschede, The Netherlands: Twente University Press. Pp 426.
- Geels, F. (2010) 'Ontologies, Socio-Technical Transitions (To Sustainability), And The Multi-Level Perspective' *Research Policy* 39(4) 495-510
- Geels, F. and Raven, R. (2006) 'Non-linearity and Expectations in Niche-Development Trajectories: ups and downs in Dutch biogas development (1973-2003)' *Technology Analysis and Strategic Management* 18(3/4):375-392
- Geels, F. and Schot, J. (2007) 'Typology of Sociotechnical Transition Pathways' *Research Policy* 36 pp.399-417
- Geels, F.W. (2005a) 'Processes and patterns in transitions and system innovations: refining the co-evolutionary multi-level perspective', *Technological Forecasting and Social Change*, Vol. 72, No. 6, pp.681-696.
- Geels, F.W. (2005b) *Technological Transitions and System Innovations: A Co-evolutionary and Socio-Technical Analysis*, Edward Elgar, Cheltenham.
- Georg, S. (1999) 'The Social Shaping Of Household Consumption' in *Ecological Economics* Vol 28 pp.455-466

- GIDDENS, A. (1984) *The constitution of society: Outline of the theory of structuration*, Cambridge, The Polity Press.
- Grin, J., Rotmans, J. and Schot, J. (2010) *Transitions to Sustainable Development* (Routledge, London)
- HARGREAVES, T., NYE, M. & BURGESS, J. (in press) Making energy visible: A qualitative field study of how householders interact with feedback from smart energy monitors. *Energy Policy*.
- Haxeltine, A. and Seyfang, G. (2009) *Transitions For The People: Theory and Practice of 'Transition' and 'Resilience' in the UK's Transition Towns movement* Tyndall Centre Working Paper 134 (Tyndall Centre, Norwich)
- Heiskanen, E., Johnson, M., Robinson, S., Vadovics, E. and Saastamoinen M. (in press) 'Low-Carbon Communities As A Context For Individual Behavioural Change' *Energy Policy*
- Hess, D. J. (2007) *Alternative Pathways in Science and Industry: Activism, Innovation and the Environment in an Era of Globalization* (MIT Press, Cambridge MA)
- HM Government (2009) *The UK Low Carbon Transition Plan* (Stationery Office, Norwich)
- Hopkins, R. (2008). The transition handbook: from oil dependency to local resilience. Green Books, Totnes, Devon, UK.
- Hopkins, R. and Lipman, P. (2009) *Who We Are And What We Do* (Transition Network Ltd, Totnes)
- Jackson, T. (2009) *Prosperity Without Growth* (Earthscan, London)
- Kemp, R., Loorbach, D. and Rotmans, J. (2007) "Transition management as a model for managing processes of co-evolution", *The International Journal of Sustainable Development and World Ecology* 14: 78-91
- Kemp, R., Schot, J. and Hoogma, R. (1998) 'Regime Shifts To Sustainability Through Processes of Niche Formation: the approach of strategic niche management' *Technology Analysis and Strategic Management* 10(2) pp.175-196
- Longhurst, Noel (2010) *Twinned with Narnia? The Postcapitalist possibilities of a Countercultural Place*, Unpublished PhD Thesis, University of Liverpool
- Mayer, D. S. and Roth (1995), "New Social Movements and the Transformation into a Post-Fordist Society," in Darnovsky, et al. eds. *Cultural Politics and Social Movements*, pp 299-319
- Melucci A. (1981). "Ten hypotheses for the analysis of social movements" in *Contemporary Italian Sociology*, edited by D Pinto, New York: Cambridge Univ. Press, pp. 173 – 94
- Middlemiss, L.K. and Parrish, B. (in press). Grassroots initiatives for low carbon communities: recognising and breaking the boundaries, *Energy Policy*.
- Monbiot, G. (2009) 'Copenhagen negotiators bicker and filibuster whilst the biosphere burns', *The Guardian*, 18th December 2009 available on-line at <http://www.guardian.co.uk/environment/2009/dec/18/copenhagen-negotiators-bicker-filibuster-biosphere> last accessed 03/03/2010
- Mulugetta, Y., Jackson, T. and van der Horst, D. (in press) 'Carbon Reduction At Community Scale' *Energy Policy*
- NESTA (2009) *People-Powered Responses to Climate Change: Mapping community-led proposals to NESTA's Big Green Challenge* (NESTA, London)

- Nill, J. and Kemp, R. (2009) 'Evolutionary Approaches For Sustainable Innovation Processes: From niche to paradigm?' *Research Policy* 39: 668-680
- PANTZAR, M. & SHOVE, E. (2006) Circuits of reproduction and the dynamics of practice in everyday life. *Paper for the Second Organization Studies Summer Workshop on 'Re-turn to Practice: Understanding Organization As It Happens'*. 15-16 June 2006, Mykonos, Greece.
- RAVEN, R. P. J. M. & VERBONG, G. P. J. (2009) Boundary crossing innovations: Case studies from the energy domain. *Technology in Society*, 31, 85-93.
- Raven, R., Heiskanen, E., Lovio, R., Hodson, M. and Brohmann, B. (2008) 'The Contribution of Local Experiments and negotiation Processes to Field-Level Learning in Emerging (Niche) Technologies' *Bulletin of Science and Technology* 28: 464-477
- RECKWITZ, A. (2002) Toward a Theory of Social Practices: A Development in Culturalist Theorizing. *European Journal of Social Theory*, 5, 243-263.
- Rip, A. and R. Kemp (1998). 'Technological change'. In Rayner, S. and E. Malone (eds.) *Human Choices and Climate Change 2*. Battelle, Columbus, Ohio. Pp.327-399
- Rogers, E. M. (2003). *Diffusion of innovations* (5th ed.). New York: Free Press.
- Rørpke, I. (2009) Theories of practice - New inspiration for ecological economic studies on consumption. *Ecological Economics*, 68, 2490-2497.
- Rotmans, J., R. Kemp and M. van Asselt (2001). 'More evolution than revolution: transition management in public policy' *Foresight* 3(1): 15-31.
- SCHATZKI, T. R. (2001) Introduction: Practice theory. IN SCHATZKI, T. R., KNORR CETINA, K. & VON SAVIGNY, E. (Eds.) *The Practice Turn in Contemporary Theory*. London and New York, Routledge. pp.1-14
- Schot, J. and Geels, F. (2008) 'Strategic Niche Management and Sustainable Innovation Journeys: Theory, findings, research agenda and policy' *Technology Analysis and Strategic Management* 20(5) pp.537-554
- Seyfang, G. (2009a) 'Green Shoots of Sustainability' in *Permaculture* 62 pp.7-10
- Seyfang, G. (2009b) 'Transition Norwich: A Fine City In Transition' Report of the 2009 Membership Survey (University of East Anglia, Norwich) available at www.uea.ac.uk/~e175
- Seyfang, G. (2009c) *The New Economics Of Sustainable Consumption: Seeds Of Change* (Palgrave Macmillan, Basingstoke).
- Seyfang, G. and Haxeltine, A. (2010) *Transitions For The People: Theory and Practice of 'Transition' in the UK's Transition Towns movement* manuscript under review *Ecological Economics*
- Seyfang, G. and Smith, A. (2007) 'Grassroots Innovations for Sustainable Development: towards a new research and policy agenda' in *Environmental Politics* Vol 16(4) pp. 584-603
- SHOVE, E. (2003) *Comfort, Cleanliness and Convenience - The Social Organization of Normality*, Oxford, Berg.
- SHOVE, E. (2004) Changing human behaviour and lifestyle: a challenge for sustainable consumption. IN REISCH, L. & RØPKE, I. (Eds.) *The Ecological Economics of Consumption*. Cheltenham, Edward Elgar. pp.111-131
- SHOVE, E. & PANTZAR, M. (2005) Consumers, Producers and Practices: Understanding the invention and reinvention of Nordic walking. *Journal of Consumer Culture*, 5, 43-64.
- SHOVE, E. & WALKER, G. (2007) Caution! Transitions ahead: politics, practice and sustainable transitions management. *Environment and Planning A*, 39, 763-770.

- Shove, E. and Southerton, D. (2000) 'Defrosting the Freezer: From Novelty to Convenience' in *Journal of Material Culture* Vol 5(3) pp.301-319
- Shove, E. and Walker, G. (2010) 'Governing Transitions In The Sustainability Of Everyday Life' in *Research Policy* 39(4) 471-476
- SHOVE, E., LUTZENHISER, L., GUY, S., HACKETT, B. & WILHITE, H. (1998) Energy and Social Systems. IN RAYNER, S. & MALONE, E. (Eds.) *Human Choice and Climate Change* Columbus, Ohio, Battelle Press. pp.291-327
- Smith, A. (forthcoming) 'Civil Society In Energy Transition' in Verbong, G and Loorbach, D. (eds) *Governing The Energy Transition: Reality, illusion or necessity?* (Routledge, London)
- Smith, A., Voß, J-P. and Grin, J. (2010) 'Innovation Studies And Sustainability Transitions The allure of the multi-level perspective and its challenges' *Research Policy* 39(4) 435-448
- Smith, Adrian. (2006) 'Green niches in sustainable development: the case of organic food in the UK' *Environment and Planning C* Vol. 24 pp.439-458
- Smith, Adrian. (2007) 'Translating sustainabilities between green niches and socio-technical regimes' *Technology Analysis & Strategic Management* Vol 19 (4) pp.427-450.
- SPAARGAREN, G. & VAN VLIET, B. (2000) Lifestyles, consumption and the environment: The ecological modernisation of domestic consumption. *Environmental Politics*, 9, 50-76.
- Transition Network (2008) *Introduction*
<<http://transitiontowns.org/TransitionNetwork/TransitionNetwork>> accessed 23 Sept 2008
- Transition Network (2009) *The Transition Network Identity: Usage Manual* (Transition Network, Totnes).
- Transition Network (2010) 'It's Official <
<http://transitiontowns.org/TransitionNetwork/TransitionCommunities>> accessed 11/2/10
- UKERC [UK Energy Research Centre] (2009) Making the Transition to a Secure and Low-Carbon Energy System: Synthesis Report. London, UK Energy Research Centre.
- WARDE, A. (2005) Consumption and Theories of Practice. *Journal of Consumer Culture*, 5, 131-153.
- Watts, Michael (2001) "1968 and all that...", *Progress in Human Geography*, 25, pp. 157 - 188
- Webb, T (2008) 'Want to cut your carbon? Join our club?', *The Observer*, 24 February 2008 available on-line at <http://www.guardian.co.uk/environment/2008/feb/24/carbonemissions.climatechange> last accessed 03/03/2010