



Harvesting energy: Place and local entrepreneurship in community-based renewable energy transition

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ABSTRACT

Transition towards a renewable energy supply initiates a physical (re)shaping of places and a social transformation of communities into renewable energy communities. Although socio-cultural challenges of energy transition have been recognised (Field, 2015; IPCC, 2011; Teske et al., 2015), understandings about socio-geographic places of energy transition and their underlying social processes and structures are insufficiently studied and often remain underestimated. To close this gap, we theoretically and empirically analysed the multifaceted interplay between place, local entrepreneurship and ‘community renewable energy’. Our study is based on an analysis of regional documents and policy reports, and on qualitative interviews undertaken with inhabitants in the case-study municipality of Reußenköge (Germany). Our findings reveal two important aspects: Firstly, people’s individual and shared place meanings which materialised in social, physical, historical and climate-related place-attachments and meanings of contested and innovative place are important ingredients bearing an impact on processes of adopting or rejecting renewables. Secondly, differentiated characteristics of entrepreneurs, namely grounded, collaborative, innovative, change-making, economic, communicating, networking and political aspects, appeared to be relevant for the acceptance and support in community-based renewable energy projects. Our findings reveal that energy policies, funding schemes and administrative structures should recognise local socio-geographic important elements in the context of a sustained and decentralised energy transition.

1. Introduction

Current challenges of mitigating climate change increasingly revolve around the question of how to enable low-carbon energy transition (Field, 2015; IPCC, 2011; Teske et al., 2015). Renewable energy technologies are one important pillar paving the way towards a decarbonised and more decentralised energy supply. Individual households and collective communities have been recognised in making important contributions to the implementation of renewable energy technologies (RETs) (Walker and Cass, 2007; Ethikkommission, 2011; BMUB, 2014; DECC, 2014). Over the last two decades, people undertook investments in locally managed wind, solar, biogas and geothermal plants, and successful examples of community energy initiatives, energy communes and energy cooperatives proceeding as best cases and highlighting the empowerment of cities, communities and neighbourhoods in energy transition (HM Government, 2010; BMUB, 2014). Such developments physically (re)shape places and socially characterise communities as renewable energy communities. ‘Community renewable energy’ or ‘community renewables’ developed into a hypernym

comprising small-scale and local renewable energy generation by communities of place or interest (Walker and Cass, 2007; Walker and Devine-Wright, 2008). Diverse kinds of localised and more participatory renewable-energy generation have been recently acknowledged for increasing awareness and acceptance of renewable-energy technologies, and furthermore, the peoples’ engagement with sustainable energy issues and behaviour more generally (Walker and Cass, 2007; Rogers et al., 2008). Nevertheless, energy transition has not remained unquestioned in the population and is contested in a variety of cases. Problems on regional and local scales emerged and some studies applied the concept of NIMBYism (‘Not In My Back Yard’) to analytically address the discrepancy between people’s openness towards new technologies of generating energy and their opposition against their implementation or expansion (review see Burningham et al. (2006)). Yet, this concept has been criticised for its rather negative perspective, which conceptually overlooks the role of ‘otherness’ in siting processes (Burningham, 2000; Wolsink, 2007) and how the roles of support or objection are embedded in local places and communities (Devine-Wright, 2009). So far, theoretical and methodo-

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logical attention has rarely been devoted to local places as spatial and analytical units (Devine-Wright, 2015), and thus understanding of places of energy transitions remain insufficient (Devine-Wright, 2011; Howells and Bessant, 2012; Rennings, 2000). The paper takes this gap as a starting point by placing local places and communities in the central focus of analysis and using the theoretical concepts of place, local entrepreneurship and community renewables to investigate the social processes underlying the acceptance and successful implementation of RETs in a local municipality. Hence, the paper investigates the place-based harvesting of wind and solar energy in a coastal community which relied for centuries on harvesting crops behind sea-dikes.

The concept of place is applied to analyse social and emotional bonds attached to place while it is framed as resource of memories, experiences and creativity initiating and supporting innovative and entrepreneurial activities. This implies that people engage with their environment via ‘minds and hearts’ which equip places with meanings and contribute to developing and renovating a structured place attachment. However, in the context of research on energy communities, we think it is useful to enlarge the scope from individual to collectively shared place meanings and attachments (Manzo and Perkins, 2006) because they bear an impact on individual and collective engagement and attitudes towards place changes in the context of RETs (Devine-Wright and Howes, 2010; Manzo and Perkins, 2006). Thus, place matters in a figurative and a proper sense.

Beyond the often studied technological innovations of RETs, social structures and processes are important factors underlying energy transition. Seen from this angle, ‘community renewable energy’ can also be conceived as grassroots innovation concept for enabling sustainable energy generation (Seyfang et al., 2014). Individuals identify, evaluate and exploit opportunities of local energy transition from a place-based perspective (Shane and Venkataraman, 2000; Andor et al., 2015). In this context, local entrepreneurs – to be conceived as innovators and change agents – create mental space for implementing and enabling the generation of renewable energy and the creation of social and economic value (Feldman, 2014). It implies that entrepreneurs transform innovation into business (Feldman, 2014) and their activities are a driving force underlying the innovation of community-based renewable energy. We thus assume that local or ‘emplaced’ entrepreneurship, as discussed by Feldman (2014) and Audretsch et al. (2011), contributes to an improved understanding of processes of local energy transition.

In this paper, we present a qualitative study of a place-based approach for exploring the role of both place and local entrepreneurship for a successful local energy transition in a specific coastal municipality in North Frisia (Germany). We chose the municipality of Reußenköge as one of the earliest communities applying RETs and transforming the traditional agricultural orientation into a largely energy-based economy: hence turn from harvest fields to cropping coastal wind. The paper aims at investigating what socio-geographic aspects permeate the framing of local renewable energy and in what way the processes underlying these framings could contribute to an improved acceptance and adoption of community-based renewable energy. The following main research question is addressed: How do place and local entrepreneurship affect the emergence of grassroots innovations in the context of renewable energy?

The article is divided in six sections: First, we present the conceptual framework for investigating place and local entrepreneurship in the context of community-based energy transition. After having outlined our theoretical approach, we present the case study of Reußenköge (Germany) and the methodology applied. Then, the empirical section presents people’s place meanings and attachments and characterises its interplay with local entrepreneurship. We discuss our empirical findings before we reflect on the theoretical, methodological and empirical implications of our study. Finally, we draw conclusions about policy recommendations for a better understanding of how to enable local energy transition.

2. Conceptual framework: Linking place, local entrepreneurship and community renewable energy

Over the last decade, ‘community’ has been associated with renewable energy projects, energy initiatives and energy policies in the area of research on energy policy. The noun ‘community’ is itself derived from the Latin words *com* (with or together) and *unus* (the number one or singularity) (Delanty, 2003), and the term as such has been used to analyse different forms of communities: small or large communities, locally or globally organised, with inherent ‘thin’ or ‘thick’ attachments, based on ethnicity, religion, politics or interest (Delanty, 2003; Feldman, 2014). In this context, the terms ‘community renewable energy’ or ‘community renewables’ refer to renewable-energy-generating social groups that possess high degrees of project ownership and yield collective benefits from it on a local level (Walker and Devine-Wright, 2008). The concept of community renewables can, furthermore, be divided into two innovation perspectives: technological innovation of the renewable energy technology itself and social innovation initiated by its implementation through community action. New technologies can be conceived as actors that set social dynamics in motion which ‘occur within a [specific] place and define a community [or social structure] of common interest around’ it (Lowe and Feldman, 2008:265). Such conceptual insights have paved the way towards an understanding of ‘community renewables’ as grassroots-led innovation that generates socially acceptable and contextualised bottom-up solutions for sustainable energy generation (Seyfang and Smith, 2007; Hargreaves et al., 2013). Such locally grounded innovation processes and concurrent social structures are often the outcome of private initiatives and can result in institutionalised organisations such as community energy initiatives, energy communes, energy cooperatives or more loosely connected entities such as cooperative schemes, participatory local governance and transition towns. Thus, such grassroots innovations are motivated by ‘push factors’ coming from specific people inside a community (Tanimoto, 2012). Intertwined aspects that trigger different kinds of engagement are ecological, economic or social aspects motivated by social needs, normative frameworks and certain ideologies (Rennings, 2000; Seyfang and Smith, 2007). This account is, however, only one side of the medal as grassroots innovation requires ‘pull factors’ coming from the government and the community (Tanimoto, 2012). In this context, recent research has underlined that more attention must be given to (i) where grassroots innovations are created in order to situate renewable-energy technologies and (ii) to better understand social and institutional changes induced by so-called ‘soft’ innovations (Devine-Wright, 2011; Tanimoto, 2012; Howells and Bessant, 2012; Rennings, 2000).

These aspects have gathered attention in the field of *innovation research* that took profit from geographical research as it enhanced its conceptual scope by adding ‘proximity and location to innovative activity’ (Feldman and Kogler, 2010:381). Recent research indicated that the geographical environment, in combination with social context, bears a significant impact on the innovative performance of companies and communities (Howells and Bessant, 2012). The socio-geographic setting conceptually includes analytical units such as social relationships, communication and interaction, routines, habits and norms considered to be important for shaping the typical innovation potential of a region (Storper, 1997). Particular features that mark innovative and successful places are described as a ‘spirit of authenticity, engagement and common purpose’ (Feldman, 2014:10). Such elements portray – according to Feldman (2014) – the ‘character of place’. Although Feldman’s characteristics appear to be of little analytical value, they refer to an understanding of place, place history and place attachment as outlined in research on place (Tuan, 1977; Cresswell, 2005) and sense of place (Buttimer and Seamon, 1980). Such approaches provide important theoretical and methodological elements to spatially and qualitatively refine and improve the place-related study of innovation processes, the emergence of technologies and the

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