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Community Renewable Energy - Research Perspectives -

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Abstract

A growing body of literature is addressing the emergence and impact of community renewable energy (CRE) schemes in Europe through focusing analysis on typology distinctions, governance models, financial characteristics and membership structures. The existing research has almost exclusively studied the emergence of CRE through a country specific prism and using economic and sociological theoretical models, with very few case studies, also of limited scope. The aim of this paper is to provide an overview of literature studying CRE schemes, in particular renewable energy cooperatives, to identify research gaps and to derive a research agenda for further examining the developing sub-sector.

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Keywords: Energy transition; Social economy; Community renewable energy; Renewable energy cooperatives; Renewable energy policy; Cooperative identity.

1. Introduction

Rising concerns over climate change impacts, environmental sustainability and security of supply have exerted pressure towards initiating reform in the energy sector during the past two decades. Global efforts aim at a transition towards sustainable energy provision and use, in the industrial, transport, commercial and household sectors. This transition has resulted in application of new and reemergence of existing,

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during the past five decades to a certain extent sidelined [1-3], business models for production, distribution and trade of energy products. Namely, at the grassroots level it has included the establishment of community renewable energy (CRE) schemes, including renewable energy cooperatives and other forms of local or community based ownership/governance of renewable energy technologies. The European Union, in its Energy Union Package [4], encourages this path through outlining a vision of an Energy Union with citizens at its core, where citizens take ownership of energy transition, benefit from new technologies, and participate actively in the market.

But what is it that is distinctive about community projects and technology installations that distinguishes them from other renewable energy (RE) projects? In broader terms, as enterprises they belong to the Social Economy. This is a middle-path, or third sector that lies between the private sector dominated by investor owned firms, and the public sector dominated by state owned enterprise. Within it they can be defined as a set of:

> *"…private, formally organized enterprises, with autonomy of decision making and freedom of membership, created to meet their members' needs through the market by producing goods and providing services, insurance and finance, where decision-making and any distribution of profits or surpluses among the members are not directly linked to the capital fees contributed by each member, each of whom has one vote…"* [5].

Furthermore, community energy projects have introduced new forms of socio-economic organization to the system of energy provision. While the classical regime of energy provision usually involves highly centralized energy infrastructures with „end-of-wire captive consumers" [6], locally and cooperatively owned enterprise for energy production and/or supply can constitute a substantially different model of energy provision and distribution.

Although there is no universally accepted consensus in literature, policy makers, academics and practitioners infer varying degrees of community involvement in the CRE term [7]. Based on their survey carried out in the UK, Walker and Devine-Wright [8] identify the particularities of the 'process' and 'outcome' dimensions of renewable energy projects as indicative whether schemes deserve the 'community' prefix. From the first point of view, community projects are considered as those with a high degree of direct involvement and decision-making influence of local people in the planning, installation and operation of a project. The second perspective is concerned with where the benefits of a project are distributed, and is exemplified in community projects through local job creation, contribution to local infrastructure regeneration, providing local education resources and sensitizing the local population to sustainable energy provision topics (in addition to the wider global contribution towards further renewable capacities accumulation).

Within this defined scope, community renewable energy initiatives analyzed in literature still remain quite multifaceted, and a diversity of ownership models exists. Projects can be either completely owned by the community or developed in partnership with private or public sectors. Such ventures include many legal and financial models, such as cooperatives, community charities, development trusts representing communities' interests, and shares owned by community based organizations [9]. Patterns of ownership are determined by project initiators and managers, who themselves operate within the boundaries set by locally applicable legal forms, available financing schemes, and equity capital. The relevance of the emerging sector is embodied in the fact that such alternative ownership schemes are responsible for