Community versus Local Energy in a context of Climate Emergency

Standfirst

UK policy on decentralised energy has shifted from Community Energy to Local Energy. This signals reduced support for grassroots, citizen-led action in favour of institutional partnerships and company-led investments, which puts at risk the urgent, long-term social and technological transformations required in a Climate Emergency.

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Introduction

Whether extending energy access in the global south or decarbonising grids in the global north, smaller-scale decentralised energy systems at micro and meso scales are an increasingly prevalent feature of energy transitions globally (1). Two modes of implementing meso-level decentralised energy are of particular interest: community energy (CE) and local energy (LE). While both share a common focus on area or place-based systems of provision - from a single street to a city-region - there are also key differences between them that have been overlooked. Recent policy change in the UK offers a salient example.

In 2014, the UK government published the first ever Community Energy Strategy (2), which presented a decentralised vision of energy transitions in which communities would play a leading role. Fast forward to 2019 and the term 'community energy' has all but disappeared from UK policy rhetoric, replaced by the term 'local energy'. The Community Energy Unit has been replaced by the Local Energy Team and community-focused support mechanisms have been removed. This shift in policy is more than mere semantics, instead having important consequences for pathways of energy transition. In a context of Climate Emergency requiring rapid and extensive climate mitigation (3), overlooking the contribution of grassroots, community energies looks increasingly unwise.

Understanding Community Energy

CE is an ambiguous concept, open to diverse interpretations and practices (4). However, there is consensus that 'true' or 'strong' forms of CE refer to grassroots, bottom-up energy initiatives with strong citizen participation, local ownership and collective benefit sharing (5,6). Characteristics of 'strong' CE include(7): early and extensive participation using a range of methods, involving local individuals and groups; decision-making with a single vote per actor; technology scaled to local needs and demand; and local and collective benefit sharing . By contrast, 'weak' community energy projects involve decentralised energy provision with relatively little public participation or the sharing of benefit with local residents.

How projects are labelled is important. Controversy has arisen when instigators of decentralised energy have labelled their projects 'community energy initiatives', raising local expectations of participatory processes and shared benefits, but failed to match their rhetoric with what has actually taken place (8).

Although mainly focusing upon citizens living in close proximity (i.e. communities of place), CE projects can involve like-minded yet distantly located citizens (i.e. communities of interest) who come together to participate in decentralised energy provision, for example as shareholders in renewable energy cooperatives. While most definitions of CE implicitly assume that such initiatives are small in scale, in strong forms of CE, the size and scope of projects arise from the diverse characteristics of the places and communities in which they are situated – whether that is a small island, a rural village or an urban area - rather than being fixed beforehand from a standardised model (7). CE initiatives work outwards from the place not inwards from the system - what might be described, without prejudice, as an outlook that is parochial but not insular (9).

From Community Energy to Local Energy

In 2014, the UK Secretary of State for Climate Change and Energy described the Community Energy Strategy as a turning point in the development of 'true community energy' that would 'mark a step change for the sector and lead to a sustainable and significant expansion in the years ahead' (2). Whether the specific activity was to reduce energy use, manage energy better, generate energy or purchase energy, the scale of ambition was clear: every community across the country could initiate an energy project, regardless of background or location (10). There was, therefore, a sense that the strategy marked an official commitment to strong forms of CE. This commitment was backed up by new structures and opportunities: a Community Energy Unit was established in the Department of Energy and Climate Change, along with new grant and support schemes, such as tax incentives and feed-in-tariffs, to promote community-led projects in both urban and rural areas.

Following the replacement of the Conservative and Liberal Democrat coalition government by a solely Conservative government in 2015, the Community Energy Unit was disbanded and replaced by a Local Energy Team (11). Support mechanisms for community energy were removed. Instead of enabling grassroots action in every community, the focus (most notably in England) turned towards local authorities and local enterprise partnerships (LEPs). LEPs involve local authorities and private sector businesses, with a focus upon growth, job creation, skills and infrastructure improvements, led by a Chair from the business sector and board members who are local leaders of industry, public and educational institutions (12). In 2017, a network of Local Energy Hubs was set up to support LEPs and local authorities in delivering low-carbon economic growth (13).

Since 2017, with the publication of a new UK Industrial Strategy, LE has evolved into support for 'local smart energy systems', characterised by digitalisation of information sharing and a holistic approach integrating heat and power generation, distribution, storage and consumption, as well as mobilities (e.g. electric vehicles). This 'smart' LE is supported by the provision of £102 million of public funding to four demonstrator projects across the UK, tied to private sector co-funding. Instead of enabling low-carbon energy provision by communities, the demonstrators aim to enable private and public organisations to develop new technologies and services for consumers (14). These demonstrators, along with novel institutions such as the Energy Systems Catapult, are at least as much about enabling national economic growth and energy system change as addressing local issues in the places where they occur.

Comparing Community Energy and Local Energy

Mindful of the pitfalls of oversimplification, it is useful to make a comparison between 'strong' forms of Community Energy and Local Energy, drawing from the UK experience (Table 1).While CE focuses on the actions of citizens participating in bottom-up grassroots initiatives, LE involves professional organisations, primarily partnerships between public and private sectors, with a focus upon public authorities taking a coordinating role to leverage private sector investment in local energy provision.

CE and LE also position individuals in different ways. CE views individuals as citizens and members of communities of place or interest, who work collectively and often voluntarily, motivated by non-market values. LE positions individuals as consumers, making choices and acting in energy markets. Although both approaches suggest an active rather than passive role for individuals in energy transitions, the rational actor model that presumes individuals to be self-interested utility maximisers is more consistent with LE than CE.

Finally, while both terms share a focus on energy initiatives located in a particular place, both also present ambiguities in territoriality. CE can involve communities of interest as well as communities of locality. LE has a dual spatial focus less common in CE, both inwards to address local needs and outwards to provide replicable models to be deployed elsewhere. CE initiatives often arise from a focus on the needs and requirements of the local area rather than being motivated by systemic change (15), as well as an ethic that energy initiatives should arise from the 'bottom-up' participation of local citizens instead of the 'top-down' imposition of a standardised model (16). These are crucial differences reflecting different values and priorities.

Table 1: Similarities and differences between Community Energy and Local Energy

	Community Energy	Local Energy
Participating actors	Individuals acting collectively, encompassing voluntary actions and financial participation through shareholding	Institutions working in partnership across sectors, with a strong focus on private investment
Positioning of individuals	Active citizens led by a range of motivations including social, environmental and economic issues	Active consumers or prosumers of energy technologies, products or services that aim to maximise personal utility and choice
Spatial focus	Predominantly communities of locality, yet also communities of interest	Networks of organisations spanning local and non-local areas

Goals	Multiple, including addressing local social, economic and environmental needs as well as contributing to broader environmental challenges	Economic growth and prosperity, specifically job creation and skills training, delivered by investments in 'clean' energy systems and technologies
Orientation to change	Predominantly a local focus to address specific needs and requirements	Predominantly identifying locally beneficial solutions that are replicable elsewhere

Three points can be made from these comparisons. First, the shift in UK policy from CE to LE signals an ideological shift in how decentralised energy transitions should take place. CE is underpinned by a communitarian ideology (1), which views strong and cohesive communities – characterised by empowerment, autonomy and self-sufficiency – as beneficial outcomes for society that can be facilitated through energy initiatives (17). LE is underpinned by a neoliberal ideology, which views economic growth and prosperity as important goals for society that can be facilitated through energy actions. From a neoliberal perspective, market actors, working with and coordinated by public authorities, are more optimal ways to deliver energy services than grassroots initiatives (18).

Second, the shift away from CE lessens the emphasis on collective participation in energy transitions. The actions of self-interested individuals as market-oriented con/prosumers contrasts with that of collectives of citizens working cooperatively to share benefit. Even if both pathways suggest active roles for publics, CE seems more likely to produce the co-benefit of stronger, more cohesive communities (17). Although some literature suggests that prosumers can work collectively within smart energy systems, via virtual power plants or peer-to-peer trading (19), these studies tend to offer a partial and reductive vision of 'community' composed of aggregates of self-interested economic actors, overlooking non-market motivations characteristic of participants in community energy initiatives, such as a sense of belonging (20) and place attachment (21).

Third, community-led initiatives are more enduring over time than decentralised energy projects led by public or private sector actors that depend on specific policies or investment opportunities (18). A study tracking 178 decentralised urban energy initiatives over a ten year period found that changing policy frameworks led to the end of projects directly connected to specific instruments that offered grants, subsidies or incentives (e.g. feed-in tariffs). Other projects focused upon technology deployment ended following completion of that task without evidence of further deployment locally. The only decentralised projects with enduring activities were grassroots initiatives that tended to be small in scale, developed by community and civil society groups and motivated by social and environmental issues. This is an important finding, given that community initiatives are themselves often fragile, with capacity constraints and reliance on a small number of individuals and funding opportunities (22).

Researching decentralised energy

A strong evidence base is needed to inform policy choices about alternative modes of decentralised energy provision. However, there are significant interdisciplinary knowledge gaps in social, spatial and political considerations of community and local energy .

First, the UK policy shift from CE to LE occurred with little public dialogue or clear explication of the reasons for change. Policy research that investigates the ebb and flow of government support for different modes of decentralised energy provision across broader socio-historical time periods is urgently required. Such research could reveal the reasons for particular shifts towards community or local energy, as well as the expectations and ideologies that underlie them.

Second, surprisingly little research has been conducted on public support for policies supporting different modes of decentralised energy provision. Social acceptance research tends to focus on public support for specific energy projects or resources, rather than scales of implementation as part of systemic change. As a result, comparatively little is known about which modes of decentralised energy provision (e.g. micro- and meso-level, community versus local energy) are preferred as pathways of energy transition by different publics, and why.

Third, justice considerations are central for appraising acceptable, fair and inclusive energy transition pathways. While the emphasis upon local participation and benefit suggests that CE is both just and acceptable, better evidence is needed to demonstrate the outcomes of particular initiatives (23). Furthermore, there is a dearth of research on LE. Given that emerging - if limited - evidence suggests that local smart energy projects favour technological innovation over direct consumer or public participation (24), empirical research is essential to identify what efforts are made to involve local residents in the design and implementation of local smart energy projects, who are their primary beneficiaries, whether benefits (e.g. lower electricity tariffs) are fairly shared amongst local actors and between local and non-local actors, and whether local energy projects magnify or reduce existing socio-economic inequalities.

Fourth, investigation of the embedding of local smart energy projects within particular places and landscapes is needed (7). Research should address the extent to which project size and scope are determined by the diverse characteristics and requirements of the places and communities in which they are situated, or the application of standardised models for replication elsewhere - in short, whether technologies are fitted into the existing place or vice-versa. This is important because place attachment is one of the key processes that underpins community participation in, and acceptance of, energy projects (25).

Finally, there is the question of which mode of decentralised energy provision offers the best potential for rapid and extensive mitigation of climate change to prevent warming above 1.5°C (3). Deep cuts in emissions require improvements in energy service provision, shifts to less carbon-intensive technologies as well as the avoidance of emissions through lifestyle change (26). However, evidence suggests that public acceptance of mitigation actions is inversely related to their emissions reduction potential, since actions with greater mitigation potential require greater changes to existing lifestyles (27). Given this, research needs to investigate whether LE catalyses not only technology deployment but also social transformation beyond the time-frame of specific policies or

investment decisions, and whether initiatives are replicated elsewhere, leading to broader social and systemic change.

In the context of a climate emergency, differences between community and local energy matter. While the LE approach may succeed in the short-term deployment of decentralised energy technologies, whether it achieves long-term societal transformation is questionnable. Urgent action on climate change requires a new social contract involving concerted local action in villages, towns and cities across the globe in ways that are enduring, not brief, and that address local needs but avoid insularity. It requires extensive and meaningful citizen participation, for example in the form of local Citizens Assemblies (deliberative democratic mechanisms that enable informed and considered public opinion to be heard on a major policy question) alongside local authority actions and private sector risk-taking. Harnessing all available energies, including grassroots citizen action, to achieve rapid and extensive system change should be an imperative for policy makers at all levels. Against this backdrop, overlooking the value of community energy looks increasingly unwise.

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