

# *Public values and community energy: lessons from the US and UK*

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Article

## Public Values and Community Energy: Lessons from the US and UK

Steven M. Hoffman <sup>1,\*</sup>, Shane Fudge <sup>2</sup>, Lissa Pawlisch <sup>3</sup>, Angela High-Pippert <sup>4</sup>, Michael Peters <sup>5</sup> and Joel Haskard <sup>6</sup>

<sup>1</sup> Department of Political Science, University of St. Thomas, St. Paul, Minnesota 55105, USA

<sup>2</sup> College of Life and Environmental Sciences, Department of Geography, University of Exeter, Cornwall Campus, Truro, TR11 4DW, UK; E-Mail: S.Fudge@exeter.ac.uk

<sup>3</sup> Clean Energy Resource Teams (CERTs), University of Minnesota's Regional Sustainable Development Partnerships & Extension, St. Paul, Minnesota 55108, USA; E-Mail: pawl0048@umn.edu

<sup>4</sup> Department of Political Science, University of St. Thomas, St. Paul, Minnesota 55105, USA; E-Mail: ahighpippe@stthomas.edu

<sup>5</sup> School of Construction Management and Engineering, Whiteknights, University of Reading, Reading, RG6 6UR, UK; E-Mail: m.d.peters@reading.ac.uk

<sup>6</sup> Clean Energy Resource Teams (CERTs), University of Minnesota's Regional Sustainable Development Partnerships & Extension, St. Paul, Minnesota 55108, USA; E-Mail: haska004@umn.edu

\* Author to whom correspondence should be addressed; E-Mail: smhoffman@stthomas.edu; Tel.: +1-651-962-5723; Fax: +1-651-962-7470.

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**Abstract:** This paper examines some of the normative aspects of “community energy” programmes—defined here as decentralized forms of energy production and distributed energy technologies where production decisions are made as close as possible to sources of consumption. Such projects might also display a degree of separation from the formal political process. The development of a community energy system often generates a great deal of debate about both the degree of public support for such programmes and the values around which programmes ought to be organized. Community energy programmes also raise important issues regarding the energy choice problem, including questions of *process*, that is, by whom a project is developed and the influence of both community and exogenous actors, as well as certain *outcome* issues regarding the spatial and social

distribution of energy. The case studies, drawn from community energy programmes in both the United States and the United Kingdom, allow for a careful examination of all of these factors, considering in particular the complex interplay and juxtaposition between the ideas of “public value” and “public values”.

**Keywords:** community energy; public values; public sphere; local energy governance

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## 1. Introduction

Until recently, discussions about energy systems were confined almost exclusively to an elite body of planners, engineers, economists and other highly technical professions. The insular nature of the discourse was based upon a number of factors, perhaps the most important being the technical requirements of a system capable of delivering the prodigious amounts of energy understood as a requisite condition for the development of modern society [1]. A number of factors, however, including the emergence of alternative energy sources that are both economically competitive and much less environmentally disruptive [2–5], offer significant opportunities for the development of so-called “community energy” programmes. In its most basic form, a community energy system can be understood as a decentralized method of energy production based on a variety of distributed energy technologies where production decisions are made as close as possible to the point of consumption [6]. For example, combined heat and power plants and district heating networks develop more localized ways of utilizing heat and power that are invariably more efficient than large-scale systems of supply. Moreover, many local supply solutions, including rooftop solar and small-scale wind systems as well as biomass-fired CHP plants, are able to offer a range of environmental benefits. Thus, whilst community-based supply side options are not necessarily coterminous with renewable energy sources, most community energy systems assume as much.

Even in cases where renewable options are preferred, however, they may vary in scale and purpose such that they mimic conventional central-station technologies. A wind project, for example, may be an investor owned utility-scale wind farm designed to serve a distant load center via high-voltage transmission lines. Conversely, the project may consist of one or two turbines designed to satisfy primarily local load through integration into a local distribution system. The same issue applies to solar options, *i.e.*, a power tower *versus* net metered roof top solar PV systems.

Just where and how these sorts of choices are decided raises issues about the construction and operation of what Habermas has called the “public sphere” or the arena in which discussions based on the “public use of reason” emerge and in which the opinions emerging from civil society, or the network of organizations and associations available to individuals in a particular community, are further distilled and refined [7]. The forums in which the shaping and transmission of opinions about a community energy system can occur are many and varied, encompassing both top-down, or institutional, vehicles for articulating and aggregating community views as well as more “organic” or bottom-up examples of the public sphere [8]. The former might include local government institutions such as cities or counties in the case of the U.S. or local authorities in the case of the United Kingdom, as well as spatially or economically defined entities such as the service territory of a municipal or

cooperative utility. The latter encompasses a wide range of civil society organizations, including informal organizations based upon social affiliations such as neighborhood residents, a reading or garden club, or a group of business owners on a city block; social assets already embedded in civil society such as a parent-teachers association, a church, a Chamber of Commerce, or a fraternal organization that might serve as a meeting and discussion space from which organized, energy-related collective choices or actions may arise; or formal civil society organizations, including non-profit or non-governmental organizations.

However the public sphere is operationalized and articulated, the development of a community energy system naturally evokes a great deal of debate about both the degree of public support for such programmes and the values around which programmes ought to be organized, a distinction which is embedded in the similar but quite distinctive concepts of “public value” and “public values”. According to Natabchi, the former “refers to the worth of something; in government, *public value* refers to an appraisal of what is created by government on behalf of the public” [9]. *Public values*, on the other hand, refers to the extent to which the public accepts as reasonable the provision of a particular good or service by the state is determined by the presence of a “normative consensus about: (a) the rights, benefits, and prerogatives to which citizens should (and should not) be entitled; (b) the obligations of citizens to society, the state, and one another; and (c) the principles on which governments and policies should be based” [10].

Whilst clearly a complex concept, several key features characterize the notion of public values. First, these values can be highly contested, a situation referred to by Natabchi as “*public values pluralism*—the notion that several values and values orientations can simultaneously exist in society, all of which may be equally valid, correct, and fundamental” [9]. Second, as Beck Jorgensen and Bozeman write in their inventory of public values, although government has a special role as guarantor of public values, they “are not the exclusive province of government, nor is government the only set of institutions having public value obligations ... [Instead] public value is rooted, ultimately, in society and culture, in individuals and groups, and not just in government” [11]. Alford and O’Flynn make the same point, arguing that [12]:

“Public value” focuses on: (1) a wider range of value than public goods; (2) more than outputs; and (3) what has meaning for people, rather than what a public-sector decision-maker might presume is best for them. More significantly, it connotes an active sense of adding value, rather than a passive sense of safeguarding interests.

Finally, public values are conceived of as being reciprocal in nature, that is, the goal of the exercise is to determine both what the state and society owe to citizens and the obligations that citizens hold in framing and enacting appropriate policy measures.

Community energy represents a particularly fruitful avenue for exploring both the theoretical implications and practical possibilities of the public values framework. First, there exists a whole host of public values capable of driving a particular community energy initiative, including participatory values such as majority rule, collective choice, user democracy, and citizen involvement. Indeed, as this research demonstrates, a community energy system can be the creation of citizens, non-profit organizations, businesses and/or landowners working either independently from *or* in collaboration with various levels of government. On the other hand, a community energy system can incorporate

values central to the organizational aspects of public administration, *i.e.*, robustness, reliability, productivity, and effectiveness as well as those values that guide the relationship between public administrators and the citizens they serve, namely, responsiveness, user democracy, and citizen involvement [11]. Finally, the question of who is capable of rendering decisions about the nature and technical requirements of a preferred type of energy system and whether citizens have an obligation to participate in decision-making processes are central to determining whether community energy is an utopian idyll or a realistic possibility.

A community energy system also raises questions fundamental to what Walker and Devine-Wright refer to as an “energy choice problem” that incorporates “first, a *process* dimension, concerned with who a project is developed *by*, who is involved and who has influence” and second, “an *outcome* dimension concerned with how the outcomes of a project are spatially and socially distributed—in other words, who the project is *for*; who is it that benefits particularly in economic and social terms” [13]. The first of these dimensions stresses the process involved in determining the type of system to be built. An open and participatory process would, for instance, be built upon the public value set that emphasizes dialogue and the conditions of responsiveness, user democracy, and citizen involvement. Alternatively, the process may feature the public values embedded in the practice of responsible public administration, namely, reliability, effectiveness, and technically responsible actions, to which might be added the Wilsonian value of efficiency. Placing a priority on these values would likely result in a process that is much more “closed” and “institutionally-driven”.

Walker and Devine-Wright’s second dimension centers on the outcomes that might be reflected in particular types of energy systems. Central-station plants are, for example, almost by definition geographically distant from the customer base that they will serve. This is particularly the case with so-called “merchant plants” that are expressly built for the purpose of serving customers through wholesale purchases transmitted over a regional or national grid. This contrasts sharply with small-scale, distributed generation projects that are more designed to serve a community located in close proximity to the project site.

Demand-side programmes also reflect the range of possibilities discussed by Walker and Devine-Wright. Consider the case of programmes designed to result in substantial demand reductions. An investor owned utility, faced with the need to avoid costly capital investments, might implement a peak-shaving programme based upon traditional price-driven mechanisms. Such a programme could easily be developed as part of a process largely isolated from any of the public sphere forums discussed above, in which case, again, the process would be described as “closed” and “institutionally-driven,” and featuring an outcome that would be highly individualized, *i.e.*, a private, price-based choice. Alternatively, an initiative may be driven by a “bottom-up” process whereby a group of neighbors or members of a church group might, through spontaneous but sustained conversation, hit upon a common concern with climate change, on the basis of which they might agree to various behavioural changes such as replacing low efficiency light bulbs. They might also serve as early peer adopters and attempt to convince their other neighbors to follow suit. And in a few cases, they may even create an organization designed to “spread the word” about the issue. In these instances, demand reduction would be the result of an “open” and “participatory” process with an outcome that is both “local” and “collective”.

The term “community energy” has been employed in a manner that encompasses all of these considerations, that is, both the diversity of public values identified by Beck Jorgensen and Bozeman

as well as the variety of outcomes described by Walker and Devine-Wright. Thus, whilst community energy programmes have often been conceived of and operationalized on the basis of values central to the discipline of public administration, including those of efficiency, effectiveness, and productivity, in many other cases they have been seen as a means to expand citizen participation and the opportunities for collective decision-making. The following case studies, drawn from experiences in the United States and the United Kingdom, illustrate both the range of public values that have been influential in the development of community energy programmes as well as how ‘priority’ values influence both the organization and the expected or desired outcomes of any particular programme.

## 2. Case Studies in Community Energy: The United States

### 2.1. GreenStep Cities

Administered by the Minnesota Pollution Control Agency (MNPCA), Minnesota GreenStep Cities is operated in partnership with a number of local non-governmental organizations. It is a voluntary programme open to all Minnesota cities that supports and recognizes implementation of 28 best practices that “focus on cost savings and energy use reductions that lead cities beyond compliance and encourage a culture of innovation” [14]. Whilst the forty or so participating cities vary greatly along a number of important dimensions, including location, size, age, and wealth [15], the decision to participate in GreenStep Cities is most often an internal decision process centered on the norms or values that prevail within the city’s institutional or administrative culture rather than the larger community. Even in a city adjacent to the flagship campus of the state university, populated by citizens with very high levels of both education and political efficacy, and who were described by the GreenStep coordinator as “very aware of environmental concerns”, the city government’s culture was the dominant factor in the decision to participate in the programme [16]. An important result of this tendency to focus on the internal or institutional norms of the city is that coordinators spend little time engaging citizens in either making the decision to participate or in the implementation of the programme. Indeed, GreenStep coordinators consistently refer to members of the community as *residents* rather than *citizens*, a language entirely consistent with that used by a planning profession that is invariably driven by a top-down mind-set that “manages” the public in lieu of engaging with citizens [17].

The reluctance to engage citizens proactively stems from several factors, including the perceived time and effort required to continually engage with people who often have little substantive knowledge of energy issues. GreenStep coordinators also stressed the difficulty of maintaining a level of engagement necessary to sort through difficult and technically complex issues. Over and over again, coordinators argue that the average citizen, beset with competing demands, hectic lifestyles, and limited time, usually encounters a sort of ‘participatory fatigue’ that severely limits their ability to grapple with complexities and negotiate the differences among many competing stakeholders and interest groups.

This is not to say that the public values prevailing within the community at large are without relevance in these programmes. Indeed, support for innovation must at some level exist with the citizenry, if for no other reason than to give city administrators and elected officials the confidence to undertake what might be, at least initially, costly actions. However, even where these norms were

utilized in building support for the programme, coordinators largely framed this opportunity as a means of convincing *individual* households and firms to change their behavior. Officials are therefore content to communicate news of their work through city newsletters or other print or electronic communications that went directly to individual homes or small business owners.

GreenStep Cities can therefore be described as a community energy programme that largely emphasizes the values Beck Jorgensen and Bozeman identify as central to the field of public administration, with a particular emphasis on productivity, effectiveness, and efficiency. Whilst the programme creates outcomes that are local and potentially visible to community residents and business owners, few cities have so far developed open and participatory decision making processes during either the development or implementation phases of the programme.

## 2.2. Farmington, Minnesota, USA

Farmington, Minnesota is a city of approximately 21,000, located 30 miles south of the Minneapolis-St. Paul metro-area. According to the city's website, Farmington's assets include "a vibrant business community" as well as "the presence of the Vermillion River, the existence of working farms, and extensive park and trail systems". These favorable conditions have led city leaders to identify "economic development and sustainable growth as top priorities" [18].

According to the *Farmington 2030 Comprehensive Plan—2011 Update*, the city's 'Green Movement' began in early 2006 with the establishment of 'The Green Team', a group of city staff who met to discuss ways "to promote and encourage sound environmental practices in the workplace." Members were affiliated with a variety of departments including municipal services, parks and recreation, facilities maintenance, and city planning, who focused on recycling within city facilities, energy conservation, greener purchasing practices, and reducing waste. The team focused exclusively on internal efforts within the city government itself rather than collective efforts involving the citizens or business owners located within Farmington. As such, Farmington's community energy system was characterized by an understanding of the public sphere as a local government institution, where the city government is the "community" within community energy. Although there is the potential for The Green Team's projects to move beyond the borders of city hall and into the neighborhoods of Farmington, this does not seem to be the purpose of most initiatives. For instance, whilst the "Recycle On the Go" programme has provided additional recycling opportunities to "the public" at city-owned buildings and parks, a recent effort to collect cigarette litter from downtown sidewalks involved only the six members of The Green Team rather than a community-wide effort. However, the 3,765 cigarette butts picked up in one hour was noted as an opportunity to "provide education about water quality and downtown beautification" [19].

Although there is a limited notion of "community" within Farmington's efforts, the potential demonstration effect with respect to the larger community is appreciated by city officials. According to the *Farmington 2030 Comprehensive Plan—2011 Update*, "The Green Team hopes that by responding to the environmental issues we as a society face today, we will be better able to preserve our resources for generations to come, and set a positive example for the citizens we serve now and in the future." In 2011, The Green Team accorded a higher priority to setting a positive example by encouraging conservation among Farmington's residents. After researching a number of programmes that might



move the city in this direction, city staff determined that Minnesota GreenStep Cities would be an effective programme for the city to follow. Again, it is worth noting that this was an *internal* process, conducted by members of the city staff rather than individual members of the community itself or civil society organizations active in the community.

In summary, the predominant public values emphasized in this case revolve around productivity and effectiveness, the result being a process that is closed and institutionally led rather than being driven by “open and participatory” dialogue. Whilst Farmington’s efforts are clearly “local”, with at least one programme goal being to positively influence the behaviors of residents and businesses, the city’s efforts are not broadly inclusive of citizens and civil society organizations. Instead, Farmington’s community energy system can be seen as a “top-down” effort to effect institutional rather than community-wide change at the local level.

### 2.3. Ely, Minnesota, USA

Ely, Minnesota is a small city (population 3,460) in northern Minnesota. In 2008 the governor hosted an energy symposium in Ely that served as a catalyst for a new community group “Energy Efficiency Ely”—or E3. Formed by a few downtown business people and concerned community members, the group’s goal was to make Ely “a leader in the quest for energy independence and reduced CO<sub>2</sub> loading” [20]. Over the past four years, E3 has championed clean energy and worked to influence and shape a broader community dialogue about and commitment to their initial aim.

E3 describes itself as “a grassroots organization committed to bringing Ely and its surrounding communities together to reduce our dependence on outside sources of energy and to increase the use of local sustainable resources” [20]. Focused on the values of citizen involvement and an open and participatory process, the group suggests an “organic”, bottom up understanding of the public sphere. In an effort to encourage the widest possible scope of citizen engagement, for instance, all of the group’s events are announced via local newspapers and the local radio station. Their efforts have included hosting tours of energy efficient homes and business, facilitating an annual speaker series, and assisting the city and local organizations on solar projects.

E3 has also partnered with a variety of local and statewide advocacy organizations and a number of local government authorities. For example, a collaborative effort with the Clean Energy Resource Teams (CERTs), the Minnesota Municipal Utilities Association, and Energy Smart—Waste Wise resulted in five lighting retrofit projects and an agreement by the local utility to adopt new energy efficiency programmes/incentives geared toward local businesses. E3 also procured \$30,000 in funding from Iron Range Resources and Rehabilitation Board and New Generation Energy for a solar panel installation project at a local senior-living center. As part of this project, the center will also undertake several weatherization improvements, including installing new energy-efficient doors, replacing lighting fixtures, and purchasing weatherization stripping and caulk. According to E3, the combined green energy projects will help keep the residents comfortable and warm, save the center thousands of dollars a year, and significantly reduce Ely’s carbon footprint.

It is significant that all of these activities have their origins in either the activities of individual citizens or in local civil society organizations. Whilst E3 has collaborated with local institutional authorities, such as the local municipal utility, they have increasingly turned to the City of Ely as an

active and engaged partner as a mechanism for fostering civic dialogue and citizen involvement in shaping the broader community's sense of public values around energy. This progression from a purely bottom-up, citizen-based organization to one that is seeking greater ties to institutional representation of the community is evident in a number of E3's more recent activities, including its role as a key participant on the City of Ely's Alternative Energy Taskforce (a city sanctioned commission) (2009); partnering with the Arrowhead Regional Development Commission (ARDC) to develop an Energy Action Plan (EAP) to be added as an official addendum to the City's Comprehensive Plan (2009); and working with the City to conduct energy audits on major community spaces (2010–2011), including the local community college, the city's primary hospital and nursing home as well as its high school.

This continual and ongoing engagement between and amongst community members and local institutions speaks to both dimensions of the energy choice problem identified by Walker and Devine-Wright, *i.e.*, the process dimension of participation and the outcome dimension of benefits for local, collective improvements. The current effort to explore a potential biomass district illustrates the role that E3 has played in shaping the local energy discussion. The biomass project is a largely institutionally driven effort with a technical focus on a scale much larger and with broader impact than could likely be realized with an even greater number of individual energy audits. However, it is also a project that has been built upon E3's desire to lessen their community's CO<sub>2</sub> impact and play a leading in role in energy independence in a manner that engages community members as active participants in every step of the decision making process.

#### 2.4. Pine River, Minnesota, USA

Pine River, Minnesota, a small northern city with a population of less than 1,000, is an "outdoor-oriented community" with "excellent fishing, swimming, bike riding and camping experiences" [21]. Pine River's focus on sustainability can be traced to a June 2009 "community visioning event" designed to elicit a collectively determined "sense of the community" regarding the nature of the energy system. Hosted by a local organization known as the Healthy Communities Partnership, with funding from a local foundation, the event was attended by more than one hundred community members as well as representatives from a number of civil society organizations, including a corporation and a non-profit organization. According to Minnesota Green-Corps member John van der Linden [22], during this process "...sustainability emerged as an important overarching vision that unified many of the participants' specific goals for Pine River." Subsequent to this visioning process, the Healthy Communities Partnership created a GreenStep Task Force to coordinate Pine River's implementation of the Minnesota GreenStep Cities programme's best practices, a programme which it formally joined in February 2010. The task force is comprised of volunteers from the community, and the GreenStep coordinator is also a community volunteer. Whilst the *'Green Steps' in Pine River* report makes the point of noting "...the contributions of city government, particularly the Public Works Department and the clerk's office", unlike most of the GreenStep Cities participants, for Pine River, community energy has involved active and sustained participation by citizens rather than the institutional efforts of local government staff.

This emphasis on community and citizen involvement extends to implementation of a particular Minnesota GreenStep Cities best practice, *Benchmarks & Community Engagement*, which involves “adopt[ing] outcome measures for GreenStep and other city sustainability efforts, and engag[ing] community members in ongoing education, discussion, and campaigns” [14]. The “*Green Steps*” in *Pine River* report discusses the public values of citizen involvement and responsiveness at length, noting that “the point of public participation in city affairs is that by adding the value-rich perspectives of citizens to the information-rich perspectives of experts, we can create wiser public policy...” and “[U]pdating the community via an annual report (or celebration!) builds citizens’ confidence and trust, reinforces goals, and keeps everyone moving forward.” Toward the end of the report, this emphasis on the public values of collective choice, citizen involvement, and responsiveness is directly linked with Pine River’s own community characteristics [23]:

Every Best Practice affects many stakeholders. It stands to reason, then, that a wide range of individuals and groups should be included in Best Practice selection and implementation. Because GreenStep is a complex and wide-ranging programme, broad-based participation can help streamline our GreenStep efforts by bringing in a variety of ideas, connections, and resources. “Combining forces” is all the more important in a small community with limited resources... the people of Pine River are adept at leveraging institutions, connections, and resources even when times are tough... The key task may be not necessarily to dig deep, but to reach out.

For Pine River, “reaching out” has meant continuing to connect with citizens through community meetings, updates and progress reports on the Pine River GreenSteps website, and maintaining a separate Facebook page for The Greater Pine River Area Healthy Green Communities Partnership. There are also updates on particular projects, such as the current Dam Park Revitalization Project, complete with details on fund-raising campaigns and planning meetings. Citizens are also invited to “[h]elp create a legacy—be a part of the discussion” [22]. Beyond their concerns with an appropriate type of energy system, Pine River’s citizens understand that sustainability implicates many other aspects of “community”. Thus, there is the recognition that a “‘sustainable’ Pine River would not simply be ‘green’. It would be sturdy and resilient, *sustained* by a vibrant economy, healthy people, community pride, a sense of place, and a renewable resource base.” In sum, Pine River offers an example of community energy planning that is both open and participatory and that has resulted in an outcome that is both local and collectively determined.

### 3. Case Studies in Community Energy: The United Kingdom

UNLOC (Understanding Local and Community Governance of Energy) was a two year project exploring the changing role of energy policy in the UK. Informed by ‘transition management’ as a theoretical framework [24,25], the principal aims and objectives of the project were based upon assessing the evolution and future of the local government role in the context of evolving national policy; reviewing the development of national policies that have influenced local authority energy activities; considering a range of energy and climate change initiatives established by exemplar authorities in the UK and elsewhere, including an examination of the ways and means by which local

authorities have been more active players across a range of energy initiatives; and exploring the impact of external actors within this process of change and transition in local governance [26].

According to Peters *et al.* [15], the increased urgency of climate change and concerns relating to both the supply and demand of energy are, above all, a challenge of governance. It is clear that national targets on CO<sub>2</sub> emission reductions, for instance, will only be effective according to their reach into the “place-based” actions of households, individuals and practices. More recently, the UK’s energy and climate policy framework has sought to mirror this shift in perspective, where decision-making and implementation are no longer purely “top down” in design, but are characterized by complex networks, influences and exchanges between a variety of actors and institutions operating at national, international and local levels. The importance of local level delivery and intervention has increasingly informed government policy and academic inquiry during the last decade [27], and has provided the impetus for an energy regime which is influenced to a much greater degree by a diverse range of emergent “state”, “non-state”, and grassroots initiatives [28].

Whilst there is a range of community and state initiatives around energy in the UK, the more recent policy landscape—particularly *The Low Carbon Transition Plan*, *The Localism Act*, and also the unfolding *Green Deal*—all suggest that local authorities can play a role in coordinating this local response at both an infrastructural and a cultural level. Potentially, this policy framework offers opportunities for local authorities to take the lead in developing technological solutions to the problem of securing a more sustainable energy system, as well as encouraging the development of local partnerships around sustainability.

Local authority responses to this emerging policy framework have been diverse, reflecting a variety of motivations and circumstances. In a number of areas within the UK, including Woking, Gateshead, Milton Keynes, and Leicester, local councils have begun to initiate and oversee decentralized forms of energy distribution and supply; demonstrating workable alternatives to the UK’s traditional, highly centralised energy infrastructure. Whilst the activities of those local authorities remain the exception rather than the rule, it is likely that this form of energy governance at the local level will become much more significant in creating the conditions for a new governing actors’ network in energy supply and generation.

However, this shift in perspective has raised numerous questions concerning both the role and influence of local government over a process from which they were previously excluded. There has also been lack of a broader discussion in relation to how the “public good” might be co-created as a part of this transition. This is particularly apparent in relation to environmental and energy security objectives and the question of who should be the arbiters and drivers of the values and principles that will inform these decisions. In post-war policy in the UK, for example, energy was seen as a public good and centralized delivery was written into the decision making architecture of the post-war political covenant. By contrast, more recent attempts to broaden a traditionally supply-oriented governing structure—by encouraging local actors and institutions to develop and initiate more bottom-up approaches to energy policy—has been characterized by an absence of this kind of debate. The *ad hoc* way in which many community energy projects have emerged during this time points to the lack of accompanying discussion as to how a low-carbon transition led from the local level, will address differences in power and organizational capacity between groups and institutions and, similarly, how/if this shift might incorporate differing perspectives on *process*.

The next section highlights findings from the UNLOC project, noting how local authorities attempt to negotiate value diversity at the local level, both with other groups and organizations and within their own Councils. It is apparent that, whilst some local authorities place value on technology as a means to address sustainability, others place a greater emphasis on engaging community groups in their decision-making or encouraging greater economic value.

### *3.1. Woking Borough Council*

Woking is perhaps the best known from a group of local authorities in the UK—which include Milton Keynes, Kirklees, Leicester, Leeds and Gateshead—for being active in the development of their own locally initiated power generation infrastructure. As one of the more environmentally progressive local authorities in the UK, Woking Borough Council has developed a fairly advanced technological vision around sustainability in the area. In light of its achievements in this area, the Council has been awarded Beacons for Sustainable Energy (2005–2006), Promoting Sustainable Communities through the Planning Process (2007–2008) and more recently the Beacon Award for Tackling Climate Change (2008–2009).

Woking Council embarked on the path to ‘think globally and act locally’ in the early 1990s, when it adopted a new approach to energy efficiency in relation to its own buildings. This led to substantial savings in both energy and finance, particularly through the incorporation of small scale combined heat and power units in corporate buildings in the mid to late 1990s [29]. Energy efficiency and alternatives to conventional energy production were also promoted and embedded in the Council’s approach to asset and property management. To date, the authority’s portfolio of energy projects has come to include a range of low and zero carbon technologies, including solar photovoltaics, combined heat and power and a demonstration fuel cell.

The situation in Woking is fairly novel in the UK in that it is underpinned by a fruitful partnership that has been developed between the Borough Council and their energy services company Thameswey. The focus for this partnership is been structured around a clearly defined set of sustainability issues in the area. As Vaze and Tindale have pointed out [30]:

It has a number of novel features that look at the energy needs of central Woking in a long-term and systematic way. The town’s officers, Ray Morgan and Allan Jones, worked with Danish technical partners to form the ESCO Thameswey, which has developed a highly integrated scheme that uses 13 CHP units, DH and revised planning guidelines on all new developments, which requires new buildings near the centre of town to connect to the heat network. The council also installed photovoltaic panels using grants from the European Commission and the UK national government.

Although it is locally developed and sponsored, Woking’s sustainability programme nonetheless aligns more closely with Walker and Devine-Wright’s notion of a distant-private/closed and institutional type of community energy programme. The technological agenda has quite clearly been driven by top-down prioritization of “expert knowledge”, and the valuation of a handful of technical experts. Consequently, decision-making channels have largely precluded the engagement of the surrounding community and discussion has been sidelined for the most part in favor of the ideas of a

few individuals, whose drive and vision has been able to influence consensus at council level. This consensus was critical in unlocking a long term set of goals through which to develop both political and financial capacity. As one member of the Council pointed out, “the climate change strategy is deeply embedded in the core decision-making process of the Council, so there is no physical conflict with anything else that the Council is trying to do. The Council is totally orientated towards sustainability and renewables.” The Council member argued that the partnership with Thameswey was particularly vital in providing a financial base for their activities, although he points out that this is where the limitations of this approach had begun to emerge in more recent times. As he explained, whilst there have been efforts to scale up these operations in order to sell energy outside of the Borough, this aim has met with opposition, both within the Council and also in the wider community. Many of the residents in Woking remain unconvinced by the Council’s sustainability objectives and there has been an emerging debate, both in the local community and at Council level, around the level of debt which has been accrued by the Council during this time, and their leveraged finance from the Public Works Fund (now called the National Loans Fund).

More recently, the Council has attempted to engage its residents in a more grassroots-oriented sustainability agenda through Action Surrey, a council initiative managed by Thameswey designed to help homeowners, schools and businesses to reduce energy consumption, water consumption and fuel bills. It has been argued, however, that a failure to resonate with public values at a grassroots level during its two decade sustainability agenda now means that unlocking the bottleneck of greater “buy in” amongst its residents must be addressed if further progress is to be attained.

### 3.2. Bradford Metropolitan District Council

The City of Bradford Metropolitan District Council in West Yorkshire, Northern England, is part of the West Yorkshire Urban Area conurbation. It has a population of around 1.5 million and is part of the Leeds-Bradford Larger Urban Zone (LUZ), the third largest in the UK after London and Manchester, with an estimated population of around 2.4 million.

According to Council officials, a focus on energy issues—primarily the problem of fuel poverty—had also brought environmental challenges much more to the fore in recent years. This, officials believe, has given local authorities themselves greater influence in developing more coherent policy frameworks for energy and environmental strategy. Traditionally, local authorities had ‘environmental issues’ residing in different departments resulting in a disparate set of meanings being attached to the idea of ‘environment’ and its responsibilities. Thus, in some areas, sustainability meant waste collection and street cleaning, whilst in other areas it meant managing parks and open spaces. According to one local official, it was “all very fragmented. We’ve still got some of that fragmentation but what we’re beginning to do is try to weave a thread of environmental thinking through all our strategy policy. So it’s about a sort of climate, carbon, environment grouping, what we do moving ahead... what we’ve been trying to do is put in place the networks, the communication channels and so on, to begin that process.”

As a result of this fragmentation, developing internal cohesion *within* a local authority often poses a significant challenge. Whilst energy as an emerging issue at the local level has begun to challenge current working practices and ideas within the Council, different departments and personalities have

not always crystallized around either the need to act or how to address these issues. This is true of both different local authority actions on energy and also within departments, where there is often disagreement over the extent to which energy and environmental initiatives should be prioritized. Consequently, there is frequently a problem with coordinating the current ambiguity of this message across departments; within different departmental approaches to the same issues; and very often mobilizing the appropriate level of expertise and capability in relation to *implementation*.

Despite these issues, the Council has attempted to incorporate a relatively high level of community engagement in local energy planning. For example, the Council established a Community Warmth scheme which ran from September 2008 to March 2011 specifically designed to improve the energy efficiency of less affluent residents in their jurisdiction. It was pointed out by one of the leaders of this scheme that whilst the realities of many people's lives can hide the carbon embedded in certain behaviours and lifestyles, *experiencing* issues such as fuel poverty can also make carbon visible to them. In the words of this official, "carbon and energy in themselves may not mean much but keeping warm and saving money almost certainly do." The scheme itself proved successful in addressing fuel poverty, health issues and in respect of carbon savings but it also served to highlight the difficulty of connecting with a community that contains such a diversity of affluence levels among its residents.

An equally problematic barrier to engaging the community in council policy centered on the recent shrinkage of financial resources available to local authorities in the UK, noticeably reducing the capacity of councils to drive forward their agendas for community engagement in the sustainable generation and management of energy. This problem was particularly relevant in that 'leading by example' was considered a core element of local authority engagement on energy issues, particularly in relation to coordinating the necessary degree of cooperation from businesses and residents. Several interviewees referred to the importance of leadership in respect of the behavioural and practical aspects of delivering sustainable energy governance. It was suggested, for example, by one of the interviewees that 'getting our own house in order' was a key priority when he first took up his post five years ago, so that "...if we were going to go out and proselytise about energy efficiency and new energy sources that we were at least starting to do some of that stuff ourselves".

### 3.3. Oxford City Council

Within the context of the UK's traditionally centralized approach to energy planning, Oxford City Council has been recognized for taking a lead in the area of climate change, using an approach that places significant emphasis on developing links with the local community. The "Low Carbon Oxford" project is a city-wide initiative designed to develop effective partnerships among private, public and non-profit organizations around sustainability aims and objectives. Three main goals for the project have been identified, including the reduction of overall carbon emissions of the city by three percent on a year on year basis leading to an eighty percent reduction by 2050; the creation of "green jobs" and a sustainable economy; and to transform Oxford into an exemplar low carbon city for the UK [31].

According to an Oxford City Council member, a key starting point for this approach has been the Council's willingness to display their own sustainable energy credentials. Such transparency was seen as particularly important if they were to exert effective *political* influence in reaching the wider community in relation to the sustainability message [32]:

It's no mistake that the carbon management programme we have here in the council is called "Getting Our House in Order". We took a very conscious step to do just that before we went out to the broader community across the city and started to engage with them around what they could do. So, for example, as part of Low Carbon Oxford we are running a synergy forum, for energy managers from across the city just to share technical knowledge in retrofitting stuff (or not, or brand new, where people have got the opportunity but typically we're retrofitting). And we're now able to share our expertise.

Whilst Woking Borough Council has followed a top-down, technology based approach to sustainability, community engagement in Oxford has been of central importance. For example, the project is explicitly designed to encourage community action on climate change by connecting with different socio-demographic areas in the community. Thus, different approaches are being adapted to different areas and issues so as to improve the traction of their appeals for individuals to engage in sustainable energy and climate change action, a particular emphasis being placed on reaching and influencing less affluent areas. For instance, the programme is currently running a number of social enterprise projects on energy and sustainability; a low carbon community toolkit; and three pilot sustainable community projects. The project also boasts a number of mentoring and training programmes created specifically to support and develop new and innovative low carbon community projects. This model has subsequently been rolled out to involve residents across a greater geographical area of Oxford and now includes Low Carbon North Oxford, Low Carbon South Oxford and Low Carbon Barton. The programme is also aligned with Central Government's emerging Green Deal programme.

#### **4. Conclusion**

As demonstrated in the case studies, the term "community energy" is a very elastic concept, both with regard to the principles behind various programmes and in terms of the operational practices supporting their implementation. Thus, whilst cities such as Pine River have developed programmes with a significant degree of "collective decision making" and "user democracy" [32] others are satisfied with institutionally defined programmes predicated on those values instrumentally central to the practice of public administration, namely, delivering public services in the most efficient and cost-effective manner possible with an emphasis on reducing budgetary outlays and a judicious husbanding of tax revenues. The same is true in the UK, with Woking favouring a top-down, technocratic approach whilst Oxford has more broadly embraced the values of community participation in a range of tangible ways.

Given such diversity, identifying the dominant public values driving a particular programme is potentially useful for a number of reasons. First, it is very likely that the core public values will have a significant effect on the desired outcomes. For instance, whilst a programme driven by the bottom-up concerns of citizens might be able to identify technical options capable of reducing carbon emissions, it is much more likely to serve as a vehicle for enhancing citizen participation in determining the essential shape of the local energy system. A top-down, technically-driven programme, on the other hand, has a good chance of incentivizing energy-reducing behaviors on the part of individual households and businesses. It will do little, however, to encourage the development of organizations dedicated to bolstering the civic life of the community. Indeed, as is evident in the Woking case study,



such a programme may well inhibit the creation of a more broadly held set of public values about what society can expect from the energy system and the roles and responsibilities of various institutions, civil society actors, and citizens in the creation of that system. Understanding the public values dominating the local discourse can also be extremely important for assessing whether and how efforts will move forward on the ground. For example, many so-called “community wind” projects are largely devoid of any sort of broad-based citizen participation or governance schemes. Governance is instead limited to landowners fortunate enough to own acreage in hilly and/or windy areas and who are interested in securing a return on their land. In many of the latter types of cases, an unexpected level of opposition arises, a fact that often befuddles both policymakers and advocates who assume that an appeal to “community” and “local benefits” will overcome any residue of what is often seen as a simple case of NIMBYism run amok. A public values framework offers a compelling explanation for such a situation, one that centers on the existence of the sort of “public values pluralism” discussed by Nabatchi [9] and the failure to gain consensus about the inherent value of such a project and the appropriate distribution of benefits and costs across the community.

In this respect, being clear about the goals of a programme and the public values behind these goals can also avoid a false or unwarranted sense of failure. That is, if policymakers and advocates are able to clearly articulate goals during the initial phases of a programme, they can also more effectively identify which sort of approach and which public values to emphasize to reach those goals. A community that actually uses a public values framework will no doubt approach the work of designing and implementing a programme quite differently from those that do not and, in the end, will be better able to assess whether they reach both their process and outcome goals.

In the end, framing community energy as an issue of public values greatly facilitates the process of moving a community toward a common or shared set of values. E3, for example, which began as a “bottom-up” initiative, is now bridging the divide that often separates institutionally-directed programmes from citizen-led initiatives. In doing so, the organization has begun to create, both within the city government and amongst ever-broader segments of the community, a shared sense of what a sustainable energy system should look like. As a result, larger and more significant projects are now being conceived, developed, and implemented. Although “public values pluralism” no doubt still exists, a greater sense of shared values is helping to move this particular community forward to a more pragmatic and sustainable energy future.

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## References and Notes

1. Lovins, A.L. *Soft Energy Paths: Towards Durable Peace*; Harper and Row: New York, NY, USA, 1977.
2. Everett, R.; Boyle, G.; Peake, S.; Ramage, J. *Energy Systems and Sustainability: Power for a Sustainable Future*; Oxford University Press: Oxford, UK, 2012.

3. U.S. Department of Energy. Wind Energy Myths. Available online: <http://www.nrel.gov/docs/fy05osti/37657.pdf> (accessed on 8 December 2012).
4. Lantz, E.; Wiser, R.; Hand, M. *The Past and Future Cost of Wind Energy*; Technical Report NREL/TP-6A20-53510; National Renewable Energy Laboratory: Golden, CO, USA, 2012.
5. Feldman, D.; Barbose, G.; Margolis, R.; Wiser, R.; Darghouth, N.; Goodrich, A. *Photovoltaic (PV) Pricing Trends: Historical, Recent, and Near-Term Projections*; Technical Report No. DOE/GO-102012-3839; National Renewable Energy Laboratory: Golden, CO, USA, 2012.
6. California Energy Commission. *Distributed Generation Strategy*; California Energy Commission: Sacramento, CA, USA, 2001.
7. Habermas, J. *The Structural Transformation of the Public Sphere: An Inquiry into a Category of Bourgeois Society*; MIT Press: Cambridge, MA, USA, 1989; translated by Thomas Burger.
8. Hoffman, S.M.; High-Pippert, A. Institutional and Community-based Initiatives in Energy Planning. In *International Approaches to Behaviour Change: the Global Challenge to Encouraging Sustainable Lifestyles*; Fudge, S., Peters, M., Hoffman, S.M., Eds.; Edward Elgar Ltd.: London, UK, in press.
9. Nabatchi, T. Putting the ‘Public’ Back in Public Values Research: Designing Public Participation to Identify and Respond to Public Values. *Public Admin. Rev.* **2013**, in press.
10. Bozeman, B. *Public Values and Public Interest: Counterbalancing Economic Individualism*; Georgetown University Press: Washington, DC, USA, 2007.
11. Jørgensen, T.B.; Bozeman, B. Public Values: An Inventory. *Admin. Soc.* **2007**, *39*, 354–381.
12. Alford, J.; O’Flynn, J. Public Value: A Stocktake of a Concept. Available online: [http://www.publiccommons.ca/public/uploads/literature/alford\\_and\\_o\\_flynn\\_-\\_public\\_value\\_stocktake\\_-\\_irspm\\_2008.pdf](http://www.publiccommons.ca/public/uploads/literature/alford_and_o_flynn_-_public_value_stocktake_-_irspm_2008.pdf) (accessed on 1 September 2012).
13. Walker, G.; Devine-Wright, P. Community Renewable Energy: What Should It Mean? *Energ. Policy* **2008**, *36*, 497–500.
14. Minnesota Pollution Control Agency. *Minnesota GreenStep Cities*. Available online: <http://GreenStep.pca.state.mn.us/> (accessed on 1 September 2012).
15. Peters, M.; Fudge, S.; Hoffman, S.M.; High-Pippert, A. Carbon Management, Local Governance and Community Engagement. *Carbon. Manag.* **2012**, *3*, 357–369.
16. Hoffman, S.M.; High-Pippert, A.; Steinman, S. *Greenstep Cities Two Years On: What Have We Learned?* The Minnesota Pollution Control Agency: St. Paul, MN, USA, 2012.
17. Boswell, M.; Greve, A.; Seale, T. *Local Climate Action Planning*; Island Press: Washington, DC, USA, 2012.
18. City of Farmington, Minnesota, USA. Available online: [www.ci.farmington.mn.us](http://www.ci.farmington.mn.us) (accessed on 21 August 2012).
19. City of Farmington, Minnesota, USA. *Sustainability Element*. Available online: <http://www.ci.farmington.mn.us/> (accessed on 25 August 2012).
20. Energy Efficient Ely. Available online: [www.eeely.org](http://www.eeely.org) (accessed on 25 August 2012).
21. City of Pine River, Pine River, Minnesota, USA. Available online: [www.pinerivermn.com](http://www.pinerivermn.com) (accessed on 19 August 2012).
22. Van der Linden, J. *‘Green Steps’ in Pine River: A Report on Progress toward GreenStep City Designation*; Pine River GreenStep Task Force: Pine River, MN, USA, 2011.

23. Swanson, Q. *Pine River Green Steps*. Available online: <http://www.pinerivergreensteps.org> (accessed on 1 September 2012).
24. Loorbach, D. *Transition Management: New Mode of Governance for Sustainable Development*; International Books Ltd.: Utrecht, The Netherlands, 2007.
25. Geels, F.W. Technological Transitions as Evolutionary Reconfiguration Processes: A Multi-level Perspective and a Case Study. *Res. Policy* **2002**, *31*, 1257–1274.
26. Fudge, S.; Peters, M.; Wade, J. *Locating the Agency and Influence of Local Authorities in UK Energy Governance*; Centre for Environmental Strategy: Guildford, UK, 2012.
27. Jackson, T. *Motivating Sustainable Consumption: A Review of the Evidence on Consumer Behaviour and Behavioural Change*; A report to the Sustainable Development Research Network; Policy Studies Institute: London, UK, 2005.
28. Jackson, T.; Michaelis, L. *Policies for Sustainable Consumption*; Sustainable Development Commission: London, UK, 2003.
29. Curran, L. Woking Borough Council: Working Towards a Low Carbon Community. In *Low Carbon Communities: Imaginative Approaches to Combating Climate Change Locally*; Peters, M., Fudge, S., Jackson, T., Eds.; Edward Elgar: Cheltenham, UK, 2010.
30. Vaze, P.; Tindale, S. *Repowering Communities: Small-Scale Solutions for Large-Scale Energy Problems*; Routledge: Oxford, UK, 2011.
31. Oxford City Council. *Low Carbon Oxford*. Available online: <http://www.oxford.gov.uk> (accessed on 1 August 2012).
32. Another such example is Linden Hills Power and Light, a Minneapolis, Minnesota neighborhood organization with the goal of reducing their local carbon footprint through education, community engagement, and community action. One example of community action includes having neighborhood residents serving as Compost Captains, recruiting neighbors to participate in a curbside composting collection programme. See Hoffman, S.M.; High-Pippert, A. From Private Lives to Collective Action: Recruitment and Participation Incentives for a Community Energy Programme. *Energ. Policy* **2010**, *38*, 7567–7574.