

FROM COMMAND AND CONTROL TO LOCAL DEMOCRACY: THE GOVERNANCE OF COMMUNITY ENERGY PROJECTS

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1. INTRODUCTION

In a climate changing world, two of the greatest challenges of environmental and social governance are those of transforming our energy systems and addressing what Ringen (2007) calls our democratic deficit. The shortcomings of current energy governance policies and practices are particularly evident in the continued support for the centralised burning of fossil fuels, with significant implications for climate change and broader environmental degradation. However, over the past decade, there has been a rise in what many argue are more socially and environmentally sustainable approaches to energy, specifically the establishment of community scale renewable energy projects.

Many claims have been made about the benefits of community energy projects and subsequently there is a growing field of literature and research exploring many aspects of community energy (Adams, 2008; Hoffman and High-Pippert, 2009; Van der Horst, 2008; Walker et al, 2006; Walker et al, 2007; Walker, 2008; Walker and Devine-Wright, 2008; Walker et al, 2009). This paper considers the governance arrangements of community energy projects and the subsequent implications for the democratization of our energy system and society more broadly. Specifically, stakeholder mapping was undertaken to understand governance processes in terms of the relationships between stakeholders and their responsibilities. Three key and often contested concepts – governance, democracy and community energy form the theoretical basis for this research and as such are discussed in detail in the following sections.

2. COMMUNITY ENERGY

The UK Community Carbon Network identifies over 150 projects in the UK alone that could loosely be defined as community energy projects (CEPs). In Denmark wind guilds – a common approach to wind development are credited as one of the factors in the rise of the Danish wind industry. In Germany and Austria, citizen wind farms and bio-energy plants are becoming increasingly common. Following this rise in CEPs, work has been done to develop a comprehensive definition of CEPs (Walker and Devine-Wright, 2008). Such projects have environmental, technical and social dimensions; however, most engineering disciplines tend to focus on the technical dimensions, whilst social scientists focus on the social dimensions. As such this paper uses Ison's (2009) definition of community energy which encompasses all three elements. Ison (ibid) proposes that community energy projects contribute to:

- Decarbonizing energy systems through the use of renewable energy or low carbon technologies;
- Distributing and localising energy supply; and

- Democratising energy governance through community ownership and/or participation.

Significant research has been undertaken into the technical and environmental dimensions of community energy within broader energy discourses and increasingly the social dimension is being considered. However, little has been done by way of research into the specific democratic potential of community energy. Hoffman and High-Pippert (2009) draw on some democratic theory in their exploration of the different levels of participation in community energy projects, particularly examining *how* models of participation evolved and the associated implications for civic culture. They identify that community energy projects are serving as a counter to ‘what some argue is an era of declining civic engagement’ (ibid: 6), as many participants are motivated by benefits to the community not to themselves. Further, they suggest community energy projects to be examples of Barber’s (1984) strong or participatory democracy in action, whereby citizens are engaged in institutions of self-governance. However, they recognise that civic engagement and participatory democracy in action through community energy is currently limited, as projects only involve a small number of people. If as Hoffman and High-Pippert (ibid) and Ison (ibid) claim, CEPs are a more democratic approach to energy provision, such projects may have a significant role to play not only in mitigating and adapting to climate change, but also in addressing our society’s democratic deficit and as such are worthy of further investigation.

3. GOVERNANCE

Authors generally agree that governance is used to refer to a new or changing way of governing society or groups within society (Rhodes, 1997; Stoker, 1998). To understand governance conceptually it is important to determine its actors – who is involved, its function – what it does, its processes – how it does and its scale. To this end governance can be defined as arising out of a complex set of interactions between semi-autonomous economic, social and political actors (Sorensen and Torfing, 2007: 8) who have different interests (Hewitt de Alcantara, 1998: 105). It can be considered a political process or structure that is concerned with creating the conditions for collective action (Stoker, 1998; Hirst, 1997; Kooiman and Van Vliet, 1993). Governance processes can be simplified into Barber’s (1984) three fundamental activities of democracy – *talk*, *decision making* and *action*. The scale of this governance activity and thus associated responsibility can range from societal or international levels to people’s individual ‘capacity to organize and manage their own affairs’ (Hewitt de Alcantara, 1998). This paper focuses on the governance arrangements of key stakeholders involved in the development and ongoing management of two community energy projects.

4. DEMOCRACY

Democracy comes from the Greek word *demokratia*, from *demos* ‘the people’ and *kratia* ‘power, rule’. Pure democracy can be understood as all people govern themselves in all public or political matters all of the time (Barber, 1984: xiv), based on the principles of equality, freedom and popular control or accountability (Dryzek, 2007: 262). However, given the complexity of society, pure

democracy is not only impractical, but arguably impossible. Subsequently, a number of different theories of democracy have been developed based on how these principles are enacted in practice. Indeed, Dryzek (2004) identified 54 adjectives associated with democracy, all representing semi-distinct theoretical approaches.

To date, research into energy governance has primarily focused on theories of deliberative democracy (Smith, 2007; Cass, 2006), while participation-in-action and self-governance as an alternative governance strategy has been largely ignored. The result is that citizens are left feeling like “amateurs” who can play no other role than client in the civic process dominated by experts and the state (Barber, 1984). In the early 90s social theorist Hirst developed the theory of associative democracy that identifies an important role for participation-in-action.

Associative democracy entails the supplementation of national representative democracy with the devolution of as many social service activities as possible to democratically self-governing voluntary associations (Hirst 2000 in Sorensen and Torfing, 2007). The rationale for this approach according to Hirst (1996) is the dominance of hierarchical institutions which utilize command and control management approaches in both the public and private spheres. He suggested that the hierarchical nature of these institutions is a key and often overlooked factor responsible for some of the main deficiencies in contemporary democracy. Particularly problematic is that those affected by the actions of the aforementioned institutions are provided with few opportunities for ‘control and consent’ (Hirst, 1996: 101). He suggests that reform of decision making or talk to be more democratic, as deliberative democracy tries to achieve, is only half the problem; the other part is implementation of decisions or action – *[O]ne cannot feed democratic decisions into the top of authoritarian structures and expect to get democratic outcomes* (ibid: 107, my emphasis). Thus, associative democracy proposes that the most important sphere for reform and/or innovation is at the level of organisations.

According to Smith (2010), the best example of associative democracy in action is the social economy. The social economy can be defined as a broad category of organisations, known as social enterprises that undertake economic activity with a social remit (Smith, 2005: 276). The main differences between social enterprises and standard for-profit firms are their ethos and their structure. Social enterprises are typically motivated by “mutual, communal or general interests” (ibid) and social and environmental values (van der Horst, 2008) above profit. The governance structures of social enterprises are generally more democratic than private firms (Smith, 2005). For Smith, associative democracy is a theory of and for the social economy, as both discourses identify the need and mechanism for citizens to meaningfully “affect the patterns of governance, production and consumption that directly impact on their lives, their communities and their environment” (Smith, 2005: 287).

A key component of associative democracy is a clear rejection of hierarchy, this is further supported by organisational management theorists such as Fairtlough (2005). Fairtlough suggests hierarchical organisations are inefficient at learning and thus adapting to complex situations and being able to create effective outcomes. Instead he proposes that there are two additional organisational structures – heterarchy and responsible autonomy that are just as valid and arguably more effective than hierarchy. Heterarchy is defined as “multiple rule, a balance of powers rather than the single

rule of hierarchy” (ibid: 28). While responsible autonomy involves a group that decides what to do, but is accountable for the outcome of the decision. In this way, associative democracy, through organisational democracy results in a move away from hierarchical command and control management approaches towards responsible autonomy approaches. This approach further enshrines all three elements of governance, an autonomous group is involved in talk, decision making and action. In practice, there differentiated organisational modes and accountability structures within the social economy, from workers co-operatives to voluntary associations to foundations. Thus, social enterprises enable multiple different modes of citizen participation, leading to unconventional patterns in the political division of labour and in the relationship between power and authority (Smith, 2005).

The different organisational forms that CEPs take – co-operatives, community charities, development trusts and shares owned by a local community organisation (Walker, 2008) are the types of organisation that Smith (2005) defines as social enterprises. Van der Horst (2008) further analyses organisations that this research identifies as CEP organisations from a social enterprise perspective. CEPs thus can be considered a part of the social economy. By extension, if associative democracy is the theory for the social economy, it can also be thought of as the theory for community energy. As such, associative democracy forms the theoretical basis for the analysis of the governance of CEPs.

5. METHODOLOGY

An initial systemic inquiry (see Ison 2010) into the governance of two case-study CEPs was undertaken, in order to find out:

- How some community energy projects are governed, including who is involved and who isn't;
- Why these processes and structures are used, including why some people are involved and others not; and
- What some of the implications are for wider governance processes particularly associative democracy and the democratisation of the wider energy system.

The two case studies chosen were Torrs Hydro in New Mills, Derbyshire and Baywind Energy Co-op in Burrow-in-Furness, Cumbria; both UK based, operational CEPs, utilizing different technologies. A series of semi-structured interviews were conducted with people self-identified as involved in the governance of these community energy projects. Additionally, desk-top techniques were employed, analysing literature from each case study, including information on the website and official documents.

Multiple approaches were used in the analysis of the interviews and desk top research, however this paper focuses specifically on the stakeholder mapping undertaken. Stakeholder mapping was used because it identifies the key stakeholders and their relationships at different levels of governance, during different phases of the projects. The people involved and their relationships are the underlying information required to understand the power dynamics within a governance arrangement. Further they provide a visual basis for identifying where the key actions of governance – talk, decision making and action.

6. CASE STUDIES

6.1 TORRS HYDRO



Figure 1&2: Torr's Hydro Project (Torr's Hydro, 2010)

The Torr's Hydro community energy project is a low head hydro-electric scheme using an Archimedes screw with a maximum power rating of 63kW (Figures 2 and 3). It is located next to a weir in the township of New Mills, Derbyshire, UK. The project cost a total of £330,000, funded from a community share offer and a loan from the Co-op Bank. The project is run by Torr's Hydro, New Mills Ltd, an Industrial and Provident society for the benefit of the community.

The project was first conceptualised by Water Power Enterprises (H2OPE) in 2006. Water Power Enterprises (2010) is a Community Interest Company or social enterprise that is committed to developing community scale, low-head hydro-electric schemes. During the preliminary development phase local New Mills Residents formed a group that was to become Torr's Hydro. Construction of the project began in March 2008 and was completed by September 2008; the hydro system has been operational ever since.

6.2 BAYWIND

Baywind Wind Co-op, founded in 1996 is the UK's first energy cooperative. It currently owns five wind turbines totaling 2.5MW at the Harlock Hill wind-farm (Figure 4) and one 600kW wind-turbine in the Haverigg II wind farm; both wind farms are located in Cumbria.

The project was developed by the Swedish Wind Company, with the support of the Harlock Hill landowner. It began generating in February 1997, with the Baywind co-operative initially owning one of the five turbines having raised £1.2million, through a community share offer. After the Wind Company closed its UK base of operations Baywind took over management responsibility of the Harlock Hill site and soon raised enough to purchase the remaining three Harlock Hill turbines as

well as a stake in the Haverigg II wind farm. Baywind also set up an independent trust - Baywind Energy Conservation Trust, where 1.5% of the annual Baywind turnover is given over to the trust to fund for local projects. Currently the day-to-day operations of Baywind are managed by Energy4All, a co-operative of co-operatives, owned by the co-operatives it helps develop and initiated out of the Baywind project.



Figure 3: Harlock Hill wind farm (Baywind, 2010)

7. KEY FINDINGS

The research found that across both case studies there were three distinct levels of CEP governance where some combination of talk, decision making and action occur. For the purpose of this research these levels are named meta-, strategic and day-to-day governance, as exemplified in Figures 4, 5 and 6. Meta-level governance can be considered the overarching governance associated with transparency and accountability; strategic governance is at the level guiding the direction of the project; while day-to-day governance is fairly self-explanatory. This research further found that multiple governance arrangements across these levels are possible and by necessity evolve over the life of a project. For example interviewee TH2 identified that the governance of Torrs Hydro has had/will have four phases - development, construction, operation and community project support. Figures 4 and 5 identify the actors involved in governance during the construction and operation phases of Torrs Hydro and exemplify how the stakeholders involved in the governance change over time. Specifically, H2OPE which played an integral role in the meta- and day-to-day governance during the construction phase is no longer involved at any level since operation commenced.

During the construction phase (Figure 4), both Torrs Hydro and H2OPE had active relationships with external stakeholders such as the New Mills Town Council and Co-op Bank, thus building their relational power. However, interviewees stated that at the level of strategic governance, there was tension between H2OPE and Torrs Hydro, as both were involved, though with different objectives and no clear division of responsibility or agreed communication channels. The external stakeholders were involved peripherally in the governance arrangements through planning approval processes and funding agreements which are particular type of power relation. Another feature of Figure 9 was that the distinction between day-to-day governance and strategic governance was blurred, with chaotic processes, many different actors and many meetings. Meta-governance was at the level of AGMs allowing shareholders to participate in limited decision making. Additionally, one of the Torrs Hydro directors was more involved in the day to day governance.

This stakeholder mapping indicates a highly participatory governance model, with a significant degree of community power, evidenced by a high degree of continuing involvement of the local group – Torrs Hydro Ltd at all levels of governance. Indeed, during the construction phase there was

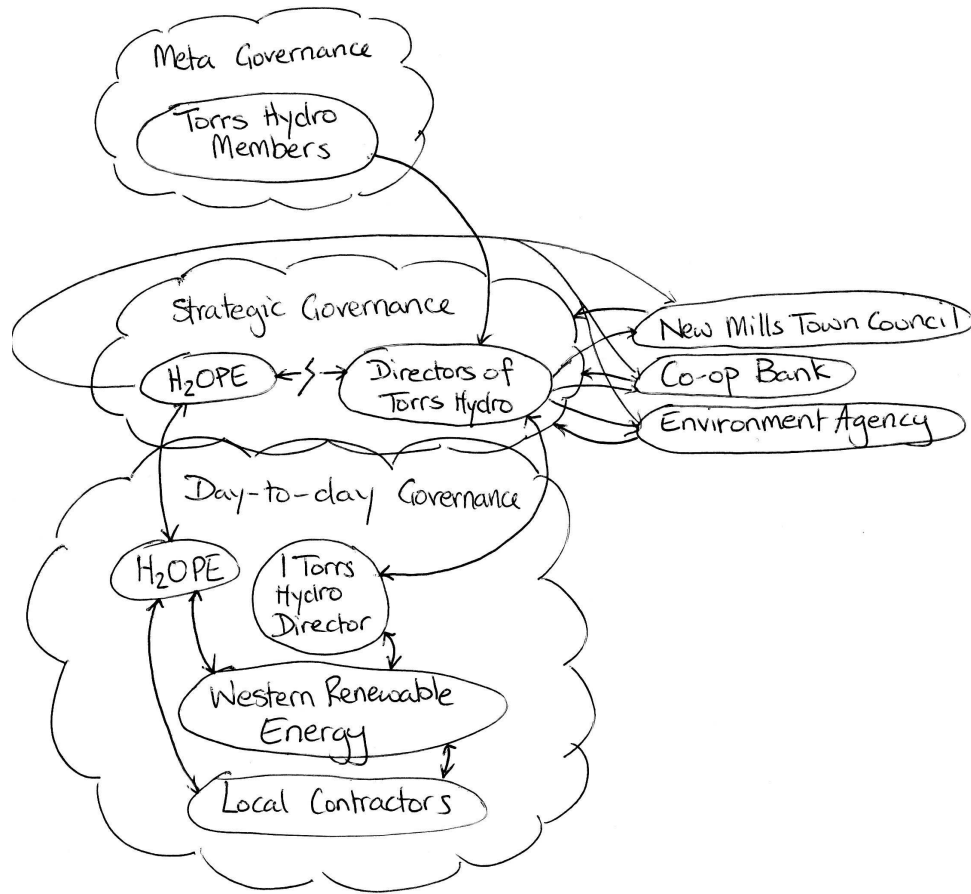


Figure 4: Torrs Hydro governance stakeholder map, construction phase

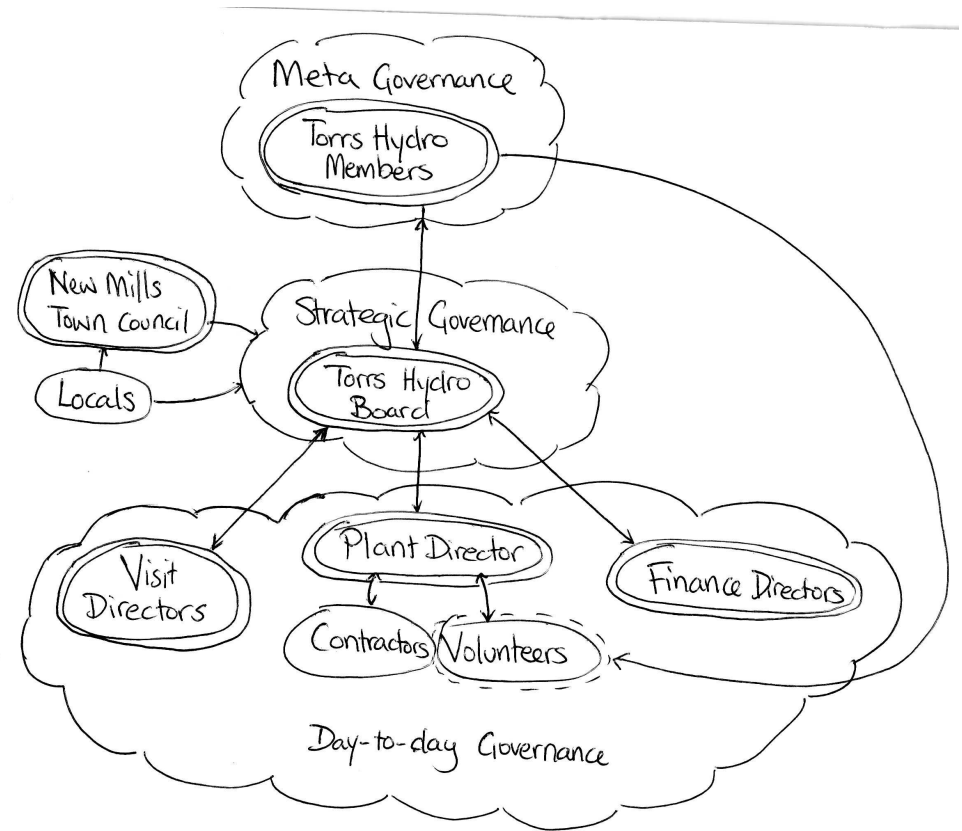


Figure 5: Torrs Hydro governance stakeholder map, operation phase

a high degree of joint implementation between all stakeholders, as one of the Torrs Hydro Directors was actively involved in the day to day governance. Joint implementation is identified as one key element in Collins and Ison's (2009) heuristic for social learning activities that can enable adaptive transformation i.e. the ability to deal with complex, uncertain situations such as wicked problems or as Fairtlough (2005) puts it the ability to 'adapt and evolve to create new order and coherence' (p.31). However, while those involved learnt much there were drawbacks, specifically:

What we thought we were getting was more of a business. That's not true, we always knew we were working together with them, but we thought they knew what they were doing and as it transpired they were learning with us. They might have been a couple of steps ahead of us most of the way, but there were times we were ahead of them (TH1).

This suggests that the co-creation of knowledge is useful only if it matches expectations and the processes leading to this are intentional. Additionally, the fact that Torrs Hydro relies on local community volunteers for the continued operation of the project provides more opportunities for local people to be actively involved in the governance system.

As well as the successful operation of the renewable energy plant, this participatory governance arrangement tends to produce benefits such as increased community cohesion and pride, trust and even tourism. Torrs Hydro members identified that project had led to:

- Huge personal satisfaction;
- Community spirit, support for the project and cohesion;
- Attracting more people to visit New Mills and associated economic benefits;
- The continued operation and supply of power. Although a series of technical and political issues mean that not as much energy is being generated as planned.

However, one interviewee stated:

It's yet to be proven whether a scheme like this is cost effective... there's unfinished business, I want to see those first grants go out to the community (TH2).

This suggests that while in many ways the Torrs Hydro governance approach has been successful there are limitations, particularly in terms of the economic output, as well as the scale of carbon mitigation achieved.

Similarly to Torrs Hydro, Baywind interviews suggested that there have also been four main phases of governance – development and construction, operation with The Wind Company managing, operation with Baywind Secretary managing, operation with Energy4All managing. Figure 6 identifies the actors involved in the second operation phase while Energy4All is managing the project, it indicates that at each level of governance there are distinct actors involved, with clearly delineated and separated responsibilities. Specifically, the Baywind members are responsible at the meta-governance level through AGMs and the occasional questionnaire, and the Baywind Board at the strategic governance level, through quarterly meetings. While Energy4All who is closely connected with the site manager, do the majority of the day-to-day governance, with only the Baywind Chair and Secretary involved at this level. The Baywind Secretary is drawn as overlapping

with Energy4All deliberately in Figure 12 as currently the person who occupies the role also works for Energy4All as the Company Secretary.

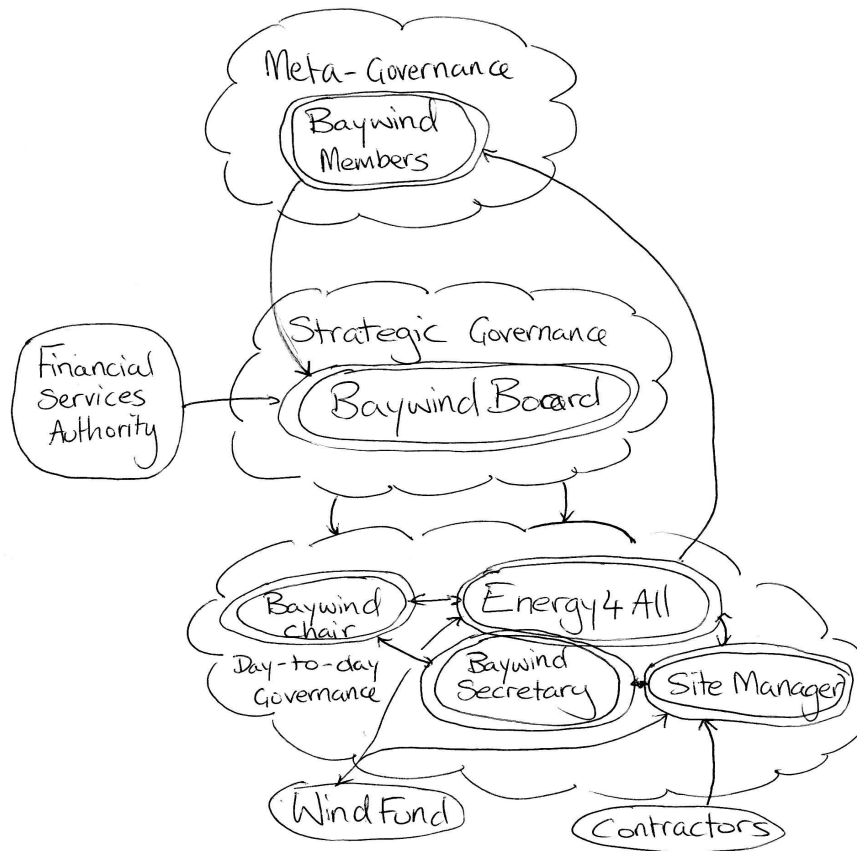


Figure 6: Baywind governance stakeholder map, management by Energy4All phase

This stakeholder mapping indicates a second governance model which entails greater differentiated responsibility amongst organisations at different levels, less community participation and power, with an expert renewable energy company having the majority of responsibility and power. For example one interviewee identified Energy4All’s approach with its developer led co-ops meant that communities have limited decision making power over the nature of the project, but can be involved in outreach activity:

Some of them come in and want to start changing the agreement... You can’t do that, we’ve worked years on that, that’s set in stone, that can’t be changed. But what you can do, they’ve been doing other things, what they call outreach work, things like educational visits (BW1)

These arrangements tend to produce expediently developed projects that provide dividends to its membership and to the local community through a trust fund. In the case of Baywind the following were identified as valued outcomes:

- Good annual returns to members;
- Expedience of development and its continued existence;

- The ability to support the set up of other energy co-ops through the development of expertise and financial resources; and
- Some returns going back into the local community via the Baywind Energy Conservation Trust and not all profits being taken by large corporations.

However, the inability to contribute to the wider energy system at a transformative scale was identified as a shortcoming:

As the critics would say it's a fraction of a fraction, its only electricity, it's only a small percentage of the electrical capacity of the country. In different scales it could be a valuable contribution to the local economy (BW2).

The stakeholder mapping analysis revealed that the governance of community energy projects is dominated by one key relationship – the relationship between a local community group and an expert renewable energy company. This relationship is particularly important during the development and construction phases of the project, although can continue. In the case of Torrs Hydro this was the relationship between Torrs Hydro New Mills Ltd and H2OPE. While for Baywind the key relationship was between Baywind and initially the Wind Company and more recently Energy4All. Other CEPs around the world have also been found to exhibit this relationship, for example Hepburn Wind, Australia's first wind co-op and Middelgrunden in Denmark.

The relationship between these two types of organisation was identified by most interviewees as one of the major governance challenges. On the one hand interviewees from both Baywind and Torrs Hydro identified that it was impossible to proceed without the presence of that expert company:

For some groups that is very important, to get to the point where you can say we're investment ready... most groups don't have the capacity or ability to find the sort of money necessary to put into a company or company structure (TH1)

We've realised these communities can't do it on their own, you need money, you need expertise (BW1)

On the other hand, if you are going to have community ownership model it cannot be done without some degree of local community involvement. The sources of power associated with this relationship include expertise and control of resources both financial and relational for the expert company and local relationships or people power on behalf of the local community. However the power of the expert company means they have the ability to prescribe the level of involvement of the local group. For the Torrs Hydro Project, although H2OPE had difficulty 'giving up ownership' of the project (TH3), they did even though they didn't have to, as one interviewee stated:

H2OPE could have said, well we're just going to build this anyway, you can help somewhere along the way (TH1).

Instead H2OPE provided significant support for the community group to develop, for example identifying an appropriate organizational structure. Baywind was also supported by The Wind

Company, for example by suggesting that local people they met get involved with the co-op, however as the Baywind anecdote regarding the role of local people in the project development illustrates is that they had little power. These were conscious decisions made on the part of the renewable energy company to maintain or cede a level of control and thus power. However, control was only ceded when it was requested by the community.

Two other relationships were identified as significant, the relationship between

- The owner organisation (either the local community group or the expert renewable energy company) and local community members; and
- the organisations driving the project (both the local community group and the expert renewable energy company) and government departments.

These are discussed below. In summary, these findings suggest that a functioning CEP governance system requires the establishment and maintenance of these three types of relationships at the appropriate levels.

8. DEMOCRATIC GOVERNANCE IMPLICATIONS

Two distinct CEP governance typologies were identified based on stakeholder mapping of two case studies; they can be considered as requiring stronger or weaker acts of democracy, although both can be considered democratic to some degree. The governance systems of these case-study projects allow citizens to meaningfully “affect the patterns of governance, production and consumption” (Smith, 2005: 287) in terms of energy at some level, with the understanding that energy production can “directly impact on their lives, their communities and their environment” (ibid). They do this by:

- Mediating between public and private spheres to a greater or lesser extent. The governance structures are not entirely in either realm and are in part independent of both large private firms and large bureaucracies, although they cannot be escaped entirely.
- Providing flexible opportunities for civic participation to suit the requirements of individual, from buying a share and voting, to dedicating much of one’s time to the endeavor.
- Attempting to distribute power equally within different levels of governance, for example within boards of directors, however it should be noted that power is not equally distributed between all stakeholders.

If the mechanisms that Hirst suggest for the practice of associative democracy are compared to those enacted through Baywind and Torrs Hydro, Torrs Hydro entails stronger acts of democracy. For organisations to be democratic Hirst (1996: 113) requires that stakeholders have a voice – specifically he suggests the membership and/or workers should be able to vote for activists to sit on the board. This is essentially how both models are structured, however, the more participatory approach included additional features such as continued operation and control of the project through volunteers, who have their roots in the community and try to be accountable to that community as well as the membership.

Nevertheless, despite the opportunities that these CEPs present for associative democracy, there are limits. One limit is associated with the fact that organisations such as expert renewable companies with capital reserves can prescribe the level of community involvement, thus to a certain extent it takes a top-down act to facilitate community empowerment, rather than communities coming from a position of equal power. The power associated with expertise also has significant bearing on the democratic potential of community energy projects.

According to Barber (1984), activity is power; by this logic those who are more actively involved in a project generally have more power. However, the ability of someone to participate in a CEP is in part to do with the amount of time they are able to make for it. As such this means that typically it is middle class, educated people with flexible jobs but well paid jobs or sufficient savings most active and having most power; thus discriminating against those who do not have that time to give.

CEP organisations and governance systems can only be as democratic as those involved want it to be. This is particularly obvious at the meta-governance level through the attendance levels of AGMs. For example, Baywind typically gets 300 postal votes which are approximately 23% of the 1300 members and 40-50 people attending their AGM. For many, participating in the governance of a CEP may not be of relevance. Although it should be noted that choosing not to participate is one tenant of democracy. However, what makes the governance of CEP relevant to a stakeholder would be worth further investigation, building on work of Walker (2008), Hoffman and High-Pippert (2009) and Rogers et al (2008).

For people who do not have formal rights within the community energy governance models i.e. are not identified stakeholders, when conflict arises often they avail themselves of legal government channels for resolution. This suggests that organizational democracy cannot replace all the institutions of the state, but neither does Hirst's model of associative democracy suggest it should. This relationship between the state and the community energy project has additional implications for the governance of community energy. Some institutions of the state have been mentioned in this research however one interviewee (TH2) expressed surprise that the UK government and particularly the energy ministry were missing from the stakeholder map. There was a mixed response in terms of whether the relationships with these institutions were positive and productive or stifling. Particularly the planning processes were identified by interviewees from both case studies as a major obstacle.

The lack of government stakeholders identified as involved in both governance models is surprising given that a number of community energy research projects have included analysis of supportive government programs (Adams, 2008; Walker, 2007). However, this may be that these projects were early adopters, before government institutions became involved in specifically supporting community energy projects. However, if such projects are to move beyond a novelty and have more impact on the wider system of energy governance there needs to be greater connectivity between local actors in CEPs and policy makers and more policy makers need to become stakeholders in the process. However, this relationship should not come at the expense of these projects' autonomy i.e. associative democracy would not be served if these projects were co-opted by the state. Building on the work of Smith (2007) and Adams (2008) further investigation is required to understand exactly

how these projects fit into the wider system of energy governance and what role associative democracy can play.

This research identified a fundamental tension between the two governance models. On the one hand, governance structures with greater differentiated responsibility seem to lead to great direct carbon savings as larger projects are possible and on the other participatory governance structures associated with a smaller project likely increase community adaptive capacity and resilience to the inevitable changes associated with climate change. The degree to which models of community governance such as those found in Torrs Hydro do increase community resilience and the extent to which this trade-off is inevitable is another possible topic for further research.

9. POLICY RECOMMENDATIONS

To foster CEPs that both address climate change *and* associative democracy or local democratic participation in action, the following policies are recommended:

- Funding and support for independent community energy facilitation organisations, along the model of Community Energy Scotland (Van der Horst, 2008) thereby reducing the conflict between expert renewables companies and local groups;
- Funding and support mechanisms that specifically target medium sized CEPs i.e. projects that are of sufficient scale to produce significant carbon reductions, but not so big that they cannot be maintained and controlled by local groups, with some minimal training;
- Streamline planning processes for community sized projects;
- Create a coherent agenda for the support of community energy across all relevant government agencies, specifically encouraging on the ground staff to remove unnecessary hurdles and provide helpful advice;
- Create multiple different organizational forms to suit different contexts, thereby fostering a diversity of different types of CEPs;
- Funding for research that fosters learning between CEP practitioners, policy makers and energy industry professionals.

10. REFERENCES

- Adams, S. (2008) *Low Carbon Communities: A study of community energy project in the UK*, Ruralnet|uk
- Barber, B. (1984) *Strong Democracy*. University of California Press, US.
- Baywind (2010) *Baywind Home*. Accessed April 2010, <www.baywind.co.uk>
- Cass, N. (2006) *Participatory-deliberative engagement: a literature review*, Manchester University, Manchester, UK
- Collins, K.B. and Ison, R.L. (2009) 'Jumping off Arnstein's Ladder: Social Learning as a New Policy Paradigm for Climate Change Adaptation', *Environmental Policy and Governance*, Vol 19, p358-373
- Dryzek, J.S. (2004) 'Democratic Political Theory' in *Handbook of Political Theory*, Gaus, G.F & Kukathas, C. (eds), Sage Publications, London
- Dryzek, J.S (2007) 'Networks and Democratic Ideas: Equality, Freedom and Communication' in *Theories of Democratic Network Governance*, Sorensen, E. & Torfing, J. (eds), Palgrave Macmillan, Hampshire, UK.
- Fairtlough, G. (2005) *The Three Ways of Getting Things Done: Hierarchy, Heterarchy and Autonomy in Organisations*, Triarchy Press, Dorset, UK
- Hewitt de Alcántara, C. (1998) 'Uses and abuses of the concept of governance', *International Social Science Journal*, Vol 155, p105-113
- Hirst, P. (1996) 'Democracy and Civil Society' in *The Political Quarterly: Reinventing Democracy*, Hirst, P. & Khilnani, S. (eds), Blackwell Publishing, Oxford, UK.
- Hirst, P. (2000) 'Democracy and Governance' in J. Pierre (ed), *Debating Governance*, Oxford University Press, Oxford, UK
- Hoffman, S.M. & High-Pippert, A. (2009) 'From private lives to collective action: Recruitment and participation incentives for a community energy program', *Energy Policy*
- Ison, N. (2009) *Overcoming Technical Knowledge Barriers to Community Energy Projects in Australia*, Undergraduate Thesis, School of Civil and Environmental Engineering, University of New South Wales, Sydney.
- Ison, R.L. (2010) *Systems Practice: How to Act in a Climate-change World*, Springer, London.
- Kooiman, J., Van Vliet, M. (1993), "Governance and public management", in Eliassen, K.A., Kooiman, J. (Eds), *Managing Public Organizations*, Sage, London, pp.58-72
- Rhodes, R.A.W. (1997) *Understanding Governance: Policy Networks, Governance, Reflexivity and Accountability*. Open University Press, Milton Keynes

- Ringen, S. (2007) *What Democracy is For*, Princeton University Press
- Rogers, J.C., Simmons, E.A., Convery, I. and Weatherall, A. (2008) 'Public perceptions of opportunities for community-based renewable energy projects', *Energy Policy*, Vol 36, p4217-4226
- Smith, A. (2007) 'Emerging in between: The multi-level governance of renewable energy in the English regions', *Energy Policy*, Vol 35, p6266-6280
- Smith, G. (2005) 'Green Citizenship and the Social Economy', *Environmental Politics*, Vol 14, Issue 3, p273-289
- Smith, G. (2010) *Social Economy, Social Enterprise and the Theory of Associative Democracy: Work in Progress*, University of Southampton, England. Accessed April 2010, <www.emes.net/fileadmin/emes/PDF_files/ISTR_EMES_Paris/PS_3/PS3_S1/PS3_S1c_ISTR-EMES_Smith.pdf>
- Sorensen, E. & Torfing, J. (2007) 'Theoretical Approaches to Democratic Network Governance' in *Theories of Democratic Network Governance*, Sorensen, E. & Torfing, J. (eds), Palgrave Macmillan, Hampshire, UK.
- Stoker, G. (1998) 'Governance as Theory: Five Propositions', *International Social Science Journal*, Vol 155, p19-28
- Torrs Hydro (2010) *Torrs Hydro: About Us*. Accessed April, 2010. <torrshydro.org/TorrsHydro/About-Us.html>
- Van der Horst, D. (2008) 'Social enterprise and renewable energy: emerging initiatives and communities of practice', *Social Enterprise Journal*, Vol 4, No 3, p171-185
- Walker G P, Devine-Wright P and Evans B (2006) 'Embedding socio-technical innovation?: Niche management and community-based localism in renewable energy policy in the UK', *Proceedings of the future of science, technology and innovation policy conference*, September 2006. Accessed April 2009 <geography.lancs.ac.uk/cei/CommunityEnergyKeyPublications.htm>
- Walker, G. and Cass, N. (2007) 'Carbon reduction , 'the public' and renewable energy: engaging with socio-technical configurations', *Area*, Vol 39, Issue 4, p458-469
- Walker, G., Hunter, S., Devine-Wright, P., Evans, B. and Fay, H. (2007) 'Harnessing community energies: explaining and evaluating community-based localism in renewable energy policy in the UK', *Global Environmental Politics* Vol 7, p64-82
- Walker, G. (2008) 'What are the barriers and incentives for community-owned means of energy production and use?' *Energy Policy*, Issue 36 December 2008
- Walker, G. and Devine-Wright, P. (2008) 'Community Renewable Energy: What should it mean?' *Energy Policy*, Vol 36, p497-500

Walker, G., Devine-Wright, P., Hunter, S., High, H. and Evans, B. (2009) 'Trust and community: Exploring the meanings, contexts and dynamics of community renewable energy', *Energy Policy*, Vol 38, Issue 6, p2655-2663

Warren, M. E. (2006) 'What Should We Expect from More Democracy? Radically Democratic Responses to Politics', *Political Theory*, Vol 24, Issue 2.