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Understanding 'local' opposition to wind development in the UK: How big is a backyard?

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ABSTRACT

In recognition of the environmental and economic threats posed by climate change; decisive steps are now being taken to stabilise greenhouse gas emissions. One sector receiving particular attention within the UK is that of electricity generation. As such, the government has introduced ambitious targets for increasing renewable generating capacity within the country. Wind turbines are expected to play a significant role in meeting these targets; however, despite high levels of support for the technology in principle, specific projects are often delayed or rejected on account of local opposition. This study aimed to establish how attitudes towards development might vary with respect to increasing distance from the identified sites. Participants were required to register their opinion towards development at a number of on- and off-shore locations in the UK. The results indicated that participants were most favourable to offshore development and least favourable to development at the identified sites. Attitudes to onshore development indicated that so long as a proposed location was anticipated to be 'out of sight' it was considered in relatively general terms. The results are discussed with reference to site visibility and landscape concerns and clearly support calls for a shift towards community-focussed development strategies.

1. Introduction

In 2007, the Intergovernmental Panel on Climate Change (IPCC) published a report, stating robustly that global warming and associated climate change is now "unequivocal" (p. 50) and that "most of the global average warming over the past 50 years is *very likely* due to anthropogenic Greenhouse Gas [GHG] increases" (p. 50, italics in original).[1] Climate change is now accepted by many as a very real and present danger which, if left unmitigated, threatens to "…exceed the capacity of natural, managed and human systems to adapt" (ibid, p.51).

In recognition of the global threat that climate change poses to both environmental ecosystems and world economy (see Stern, 2007); decisive steps are now being taken to stabilise global emissions of GHGs (principally carbon dioxide). One of the sectors receiving particular attention is electricity generation and supply. Within the UK alone, carbon emissions resulting directly from this sector currently account for around a third of total emissions (see Prime et al., 2009) and so 'cleaning up' this sector is considered key to mitigating the threats posed by climate change (see DECC, 2009a).

Alongside efforts to reduce demand and increase distribution efficiency; shifts from carbon-intensive fuel sources (particularly coal) are considered integral to reducing emissions from the electricity-supply sector (see IPCC, 2007). Within a UK context, appreciable carbon savings have been made in recent years by fuel-switching from coal to natural gas (Prime et al., 2009); however, an increasing reliance upon gas for electricity and heating within the UK has come with its own problems. For example, since 2004, the UK has become a net importer of gas (BERR, 2008a). This increased reliance upon import has had serious implications for energy security by, for example, increasing susceptibility to interrupted supply resulting from political instability in major gas-producing nations. This is not to mention the potential fluctuations in price that are likely to occur as projected demand for gas increases whilst reserves of gas continue to diminish (see Institute of Physics, 2004).

The dual challenges of mitigating climate change and addressing issues of energy security were recognised by the UK government in a report on energy published in 2007 (see DTI, 2007). Within this paper, the government outlined in detail their policies for stimulating and facilitating progression towards a sustainable and secure energy future. This paper proved not only to be a springboard for re-opening discussions over the future of nuclear power within the UK, but also outlined—amongst other things—the government's commitment to significantly expanding domestic renewable electricity-generating capacity. This commitment has

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[1] According to IPCC (2007) terminology; "very likely" means >90% probability.

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been recently reaffirmed in the publication of 'The UK Low Carbon Transition Plan' (DECC, 2009a). Within this paper, the government pledges to meet around 30% of electricity from renewable sources by 2020, which will require around a five-fold increase in renewable generating capacity.

In 2008, renewable energy technologies (RETs) accounted for just 5.5% of electricity generated in the UK (DECC, 2009b).[2] Whilst this does represent a small increase in renewable generating capacity in comparison with previous years, it is recognised that there needs to be more considerable and more rapid deployment of renewable capacity if the ambitious electricity-generation targets are to be achieved. As such, the UK government has sought to introduce and strengthen legislation aimed at increasing the share of renewables within the country's energy-mix (e.g. Renewables Obligation Order, 2009; Climate Change Act, 2008; Energy Act, 2008; see also http://www.decc.gov.uk).

The relatively slow deployment of RETs in the UK is surprising considering the apparently high and consistent levels of general support (i.e. 83–85%) for renewable energy initiatives (BERR, 2008). Importantly, these delays cannot necessarily be attributed to the technological immaturity of some of the newer RETs (e.g. tidal stream, ocean current and wave). Whilst it is fair that some of these newer RETs require substantial further investment and testing to increase their commercial viability; more mature technologies like wind turbines *could* and perhaps *should* be making a much greater contribution to the current UK energy demand (see also Dale et al., 2004).[3] Indeed, a report on renewable electricity-generating technologies prepared by a UK parliamentary select committee (i.e. the Innovation, Universities, Science and Skills Committee [IUSSC], 2008) indicated that mature renewable technologies (e.g. on- and off-shore wind) alone would be capable of meeting the national 2020 targets if deployed in sufficient numbers.

In short, within the UK there exists a discrepancy between the public's apparent desire for RETs and the relatively slow rate at which new generating capacity is commissioned. These delays are problematic, in that they could threaten the pursuit of the UK's broader renewable electricity targets, which are an important part of the government's policy on cutting the UK's GHG emissions (see DECC, 2009a). Whilst appreciating that the rate of renewable deployment is likely to be influenced by a number of technical and economic factors (e.g. supply chain issues, transmission constraints, power purchase agreements, etc.), the present research aims to establish more about the *social* roots of this discrepancy; with a specific focus on some of the factors influencing wind development in the UK.[4]

1.1. Wind farm planning in the UK

Despite having arguably the best wind resources in Europe (Sustainable Development Commission, 2005), wind deployment within the UK is somewhat meagre in comparison to other less-windy European nations (Toke et al., 2008). Indeed, in 2008 wind power supplied a little under 2% of the UK's electricity (DECC, 2009b) compared with around 20% in Denmark, 12% in Spain and 7% in Germany (EWEA, 2009).

One of the principal reasons thought to be behind this paradox is the relative inefficiency of the UK planning system, particularly with regard to onshore development (e.g. Toke, 2005). Indeed, in the latest 'state of the industry' report, the British Wind Energy Association (BWEA, 2009) highlight the "…pressing need for a more effective and efficient planning system for onshore projects" (p.7) within the UK, noting that at present the industry is failing to see the required growth in either "…the number or capacity of consents coming through the planning system" (ibid, p.7). Indeed, the successes of certain types of application actually appear to be on a worrying downward trend. For example, between 2007 and 2009 approval rates (by scheme) for <50 MW onshore applications (i.e. those initially considered by local planning authorities) in England were shown to drop from 57% to just 29% (see BWEA, 2009).

Thankfully, a fair (and ostensibly increasing) number of projects achieve planning permission upon appeal and the BWEA (2009) is confident that the sluggish nature of the UK planning system does not *at present* threaten the pursuit of the broader renewable targets. However, they do note that as the sites for larger schemes 'dry up', there will be increased impetus on local authorities and the appeals process to "…operate effectively and efficiently to deliver a growing number of small to medium sized projects" (p. 18). As such, identifying and addressing the factors that exert a detrimental (or beneficial) impact upon the planning process is of increasing importance—one such factor is the opinion of those living close to proposed developments.

1.2. Wind farm opinion in the UK

Local opposition to onshore wind development seems to be on the increase. This may be partly due to the fact that wind development is becoming publicly perceived as controversial *per se* (see Khan, 2003) but could also be due to the top-down planning strategies often utilised by developers (see Kahn, 2000; Wolsink, 2000; Walker, 2009; see also Bell et al., 2005). The cause of the opposition notwithstanding, the problem for developers and the government alike is that organised opposition groups have been shown to inhibit the chances and speed with which planning permission is obtained (e.g. McLaren Loring, 2007; Toke, 2005). What is perhaps more puzzling for developers is the level of local opposition encountered when compared to reported levels of support for wind development within the UK (70–80%; BWEA, 2005; see also Krohn and Damborg, 1999).

Bell et al. (2005) outline three possible explanations for the emergence of this discrepancy: (1) the *democratic deficit* explanation; which suggests that wind power planning decisions tend to be disproportionately influenced by the minority who oppose the project. In essence, project opponents, being typically more motivated to attend and contribute to planning discussions, tend to exert more of an influence on planning decisions resulting in reduced chances of success (see also Toke, 2002); (2) the *qualified support* explanation, which suggests that whilst people might support wind power in principle, they often have qualifications for this support that attitude surveys generally do not register (e.g. wind energy is okay, so long as it does not have a detrimental impact upon humans or the landscape). Thus, in situations of planning controversy when it appears as though opponents are acting inconsistently with their stated attitudes, they are in fact acting entirely consistently with the caveats that they place on their support for wind (see also Wolsink, 2000); (3) the *NIMBY* (not in my backyard) explanation, which suggests that there is an 'individual gap' in people's attitudes towards local and more

[2] Of about 4.2% from wind, wave, solar and biomass; 1.3% hydroelectric (DECC, 2009b).

[3] We recognise that there are problems regarding the intermittency of wind that might preclude an over-reliance on this technology. However, installed wind capacity would have to be far greater than it is at present (c. 20%) before an appreciable impact would be felt (see http://www.bwea.com/energy/rely).

[4] Wind power is at present arguably the most mature and cost-effective renewable technologies (DECC, 2009b) and so is arguably the first choice for energy companies aiming to meet the targets placed upon them by recent government (e.g. 'Renewables Obligation' legislation, see http://www.decc.gov.uk/).