



Exploring the landscape of wind farm developments; local area characteristics and planning process outcomes in rural England

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ABSTRACT

Despite broad public support for wind energy in principle, windfarm developments are often met with local opposition. There is theoretical, case-based and anecdotal evidence to suggest that 'the local' is relevant for planning process outcomes, but the nature and extent of this relevance is not so clear. We embark on an initial exploration of local factors that, on aggregate, may be of relevance to planning outcomes of proposed windfarms in rural England. Applying a broad scanning approach we use an existing small area GIS dataset of 117 variables related to education, health, demography, employment and housing. We identify a number of strong associations, and discuss to what extent these make sense in the light of existing literature on environmental equity and social capital, or throw up questions for further study. Notwithstanding the methodological caveats of this explorative study, and the scope for more in-depth analysis, our findings suggests that beyond the myriad of individual planning cases, the emerging landscape of wind energy development in England is markedly uneven, and sometimes inequitable. Evidence of the latter emerges notably through the strong significance of local democratic deficit (i.e. low voter turn-out) as a predictor of a 'positive' planning outcome for windfarms and the further strengthening of predictive associations at the appeal stage.

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Introduction

With the rapid commercial development of windpower technology in the 1990s, wind turbines have joined the list of facilities which can give rise to siting controversies. Public support for wind energy in general tends to be high but proposed wind farms have often, in the UK and elsewhere, been met with strong local opposition. This issue has sparked a growing research interest and literature about the nature and motivation of local opposition or support (e.g. Bell et al., 2005; Devine-Wright, 2005a,b; Ellis et al., 2007; Toke, 2005; Van der Horst, 2007; Warren et al., 2005; Wolsink, 1994, 2007). It is hardly a controversial hypothesis to state that who and what is found in the local area can matter for planning outcomes. Recent examples of evidence with regard to wind farms include the significant effect of distance on public opinion reported by Warren et al. (2005) and Toke's (2005) identification of factors associated with local authority planning outcomes. However there is scope for a more extensive or systematic assessment of the role of

'local' factors in planning outcomes. This paper sets out to further this area of enquiry. Our aim is to contribute to the analysis of local responses to facility siting by undertaking an initial exploration of the possible association between characteristics of the local area and wind farm planning outcomes. We do this by looking at more and different local variables and examining the potential relevance of these in a much smaller geographical area around the proposed wind farm site.

Rationale for the analysis

The rationale for this exploration is based on two potential characteristics of siting controversies:

1. *Distance matters*: On average people who live nearby may play a more influential role in opposition than people living further away from the planned development.
2. *People matter*: Some aspects in the social/economic/demographic profile of the people living locally may be associated with the level of effective opposition.

The first siting controversy characteristic is supported by the theory of spatial discounting (Hannon, 1994), which suggests that

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In summary, the above section has detailed that (a) there are a number of reasons why local council planning decisions for wind-farm development may differ between locations, and that (b) there may be a range of local area variables which might act as (proxy or direct) indicators for those factors in the decision making process which help to produce these differential planning outcomes. There is thus scope for analyzing a range of local area variables to see if possible indicators can be found, and if so, how these can be interpreted. The method adopted for doing this, is presented in the next section of this paper. This is followed by the results section, which is in turn followed by the interpretation of the findings which will be discussed in two separate sections, relating to the concepts of social capital and environmental inequality respectively. The penultimate section highlights the methodological limitations, and is followed by the conclusions.

Exploring the characteristics of the local area vis-a-vis the outcomes of the planning process for wind farms can be done both for the first planning decision but also for any subsequent appeals. We set out to identify possible differences between local areas where windfarm proposals were rejected (or rejected on appeal)

We rejected those LSOAs that contained the proposed windfarm sites and grouped them into two categories; accepted or refused. We carried out a statistical analysis to investigate the possible occurrence of significant differences between 'accepted windfarm LSOAs' and 'rejected windfarm LSOAs'. Considering the exploratory nature of this study, we have endeavored to strike a balance between the quantitative analysis and the qualitative discussion about the interpretation and the relevance of the patterns found. By limited ourselves to basic statistics, we hope to draw less attention to the detailed technicalities of the analysis and more

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