End of Award Research Report to the Economic and Social Research Council

Beyond NIMBYism: a multidisciplinary investigation of public engagement with renewable energy technologies

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Dr Patrick Devine-Wright, University of Manchester
Professor Gordon Walker, Lancaster University
Dr. Julie Barnett, University of Surrey
Dr. Kate Burningham, University of Surrey
Professor David Infield, University of Strathclyde
Dr. Hannah Devine-Wright, University of Manchester
Professor Bob Evans, University of Northumbria
Prof. Andrew Wheatley, Loughborough University

Background

Since the submission of the proposal (2003), arguments to increase the deployment of renewable energy technologies (RET) have become increasingly accepted and well-rehearsed amongst policy makers and academics. The Stern Report (2007) made the case for a substantial response to the threat of climate change by reducing greenhouse gas emissions, in part through low-carbon technologies. Policy targets have been set at UK and EU levels aiming for an 80% reduction by 2050 in comparison to 1990 levels, with a particular emphasis upon three RETs: wind, biomass and tidal (UK Committee on Climate Change, 2008; EU Council of Ministers, 2008; HM Government, 2009).

These policies arguably make issues of public engagement with renewable energy increasingly important, in the context of controversies surrounding government-led ‘consultations’ over nuclear energy (e.g. BBC News, 2007), changes to planning law with the 2008 Planning Act, continued labelling of protestors as ‘NIMBYs’ (Not In My Back Yard, e.g. Murray, 2009) and remarks attributed to the Secretary of State for Climate Change that opposition to wind farms should become ‘socially unacceptable’ (The Guardian, 2009).

At the point where our research began, we had seen increasing advocacy for adopting participatory approaches to siting RETs, yet very little research had taken place on how public engagement with RETs was actually conceived, enacted and responded to, outside of certain case studies of onshore-wind energy. Whilst there was an emerging consensus that the ‘NIMBY’ concept was a less than useful way of thinking about public opposition (e.g. Burningham, 2000), there was a dearth of conceptual frameworks to go ‘beyond’ Nimbyism.

Objectives
The overall aim of the project was to investigate public engagement with renewable energy technologies in the UK. It had three principle objectives:

a. To significantly extend the current research base by examining a range of forms of technology expected to figure in the UK renewable energy profile;

b. To create an integrated framework for understanding public engagement with diverse RET that encompasses technical and social science aspects;

c. To use this framework to suggest how a constructive dialogue about RET can be better facilitated between publics and other stakeholders.

We have been able to address each of these objectives, opting to concentrate upon larger-scale, developer-led RET projects to increase comparability and to avoid duplication with other research projects (e.g. Roy, Caird and Abelman, 2008). Technologically, we focused upon wind and biomass sectors in our case studies over solar and hydro, as these were the most common projects in development at the time of research with greatest land-use impacts. Additionally, we focused upon marine energy as a rapidly growing sector that had been relatively under-researched.

Methods

There were five phases to the research design:

Phase 1: A literature review was conducted, resulting in four working papers on ‘public acceptance’, ‘participatory engagement’, ‘regulation/planning’ and ‘NIMBYism’, made available on the project website. A ‘ladybird’ book was produced by Loughborough to enable social science research associates to become more familiar with RET.

Phase 2: Conceptions of publics and public engagement with RET were investigated by means of a) an in-depth interview study of 42 individuals representing different types of actor in RET networks, b) a longitudinal analysis of newspaper images of RET, with data collected in 2006 and 2007.

Phase 3: A new conceptual framework was devised for understanding public engagement with RETs. Work on the framework was structured across phases 3 and 5 to enable us to evolve and refine our thinking over time.

Phase 4: Public engagement with specific RET projects was investigated by means of case study research. We considered the value of a longitudinal ‘super’ case study, prompted by interest from the project’s advisory panel, however, it proved impossible to identify a timely case with a willing developer. To inform case selection, we conducted sectoral reviews of recent projects in offshore/onshore wind (Manchester), marine (Lancaster) and biomass (Northumbria) sectors. We also
liaised with researchers in parallel projects (e.g. EU FP7 ‘Create Acceptance’ and Leverhulme Trust ‘Climate Change and Energy Choices’).

Following this review, eight case studies were selected (see table 1) involving ten projects in four sectors. Criteria included: engagement actions by the developer within the previous 2 years, varied technology sectors and UK contexts, neglected research areas and evidence of varied public responses. The urban wind case study involved two projects proposed by a supermarket company in diverse contexts; in relation to marine, we studied two projects in the same spatial area of South West Wales.

Table 1: Summary of project case studies

<table>
<thead>
<tr>
<th>Project name</th>
<th>Sector</th>
<th>Scale</th>
<th>Location</th>
<th>Local opposition group</th>
<th>Decision maker</th>
<th>Planning Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gwynt y Mor</td>
<td>Offshore wind</td>
<td>750MW</td>
<td>Wales</td>
<td>Yes</td>
<td>DECC</td>
<td>Consented</td>
</tr>
<tr>
<td>Lincs</td>
<td>Offshore wind</td>
<td>250MW</td>
<td>England</td>
<td>No</td>
<td>DBERR</td>
<td>Consented</td>
</tr>
<tr>
<td>Baxterley</td>
<td>Bioenergy</td>
<td>2.1MW</td>
<td>England</td>
<td>Yes</td>
<td>Local authority</td>
<td>Refused/appeal granted/revised application</td>
</tr>
<tr>
<td>Port Talbot</td>
<td>Bioenergy</td>
<td>350MW</td>
<td>Wales</td>
<td>Yes</td>
<td>DBERR</td>
<td>Consented</td>
</tr>
<tr>
<td>Ladymoor</td>
<td>Onshore wind (plus hydrogen)</td>
<td>48MW</td>
<td>Scotland</td>
<td>Yes</td>
<td>Local authority</td>
<td>Wind farm refused/H2 consented</td>
</tr>
<tr>
<td>Falkirk + Northants</td>
<td>Onshore wind (urban)</td>
<td>Both 2MW</td>
<td>Scotland and England</td>
<td>No</td>
<td>Yes</td>
<td>Local Authority/Local Corp</td>
</tr>
<tr>
<td>Sea Gen</td>
<td>Marine</td>
<td>2MW</td>
<td>Northern Ireland</td>
<td>No</td>
<td></td>
<td>FEPA</td>
</tr>
<tr>
<td>Wave Dragon + Lunar</td>
<td>Marine</td>
<td>7MW and 16-20MW</td>
<td>Wales</td>
<td>No</td>
<td>No</td>
<td>DECC, Local Authority and FEPA</td>
</tr>
</tbody>
</table>

Cases in each sector were led by one social science partner, with engineering input provided by Loughborough/Strathclyde. To enable comparisons, a standardised methodology was devised for collecting, storing and analysing qualitative and quantitative data, tailored to the context of each case. This involved co-producing question protocols for interviews, group discussions and surveys, as well as procedural issues such as ‘drop and collect’ for survey distribution. A virtual data repository was used to store and share files. Analysis involved co-producing coding templates for qualitative data, training researchers to apply MaxQDA software, scanning completed surveys and creating merged data files using SPSS software. In total, 3251 individuals participated in the project: 91 people were interviewed, 249 people participated in 34 focus groups and 2911 completed the survey.
Phase 5: The conceptual framework evolved across the phases of the project, benefiting from discussions within the project team, as well as inputs from stakeholders and advisory groups.

Results

Q1. How have models of publics and public engagement evolved and been adopted by renewable energy stakeholders?

a. Implicit ‘NIMBYism’

Analysis of phase 2 interviews, conducted across a range of financiers, developers, consultants, public relations, engineers, policy makers, indicated that most participants talked readily, at least for some of the time, about ‘the public’ as a general category. When generalisations were made, these were typically to present ‘the public’ as being increasingly supportive of renewable energy to some degree. However, this was set against the expectation that opposition to specific development proposals in particular places could readily materialise - what has been called the ‘social gap’ in public responses (Bell et al., 2005). Opponents were described in ways that resonate with the classic conceptualisation of NIMBYism as a product of self-interest, but were rarely explicitly called NIMBYs. They tended to be characterised as affluent, retired, incomers, resistant to change and concerned about house prices and unfavourably contrasted with those seen as supporters. Objections were considered as symptoms of a resistance to change and as an instrumental means of transforming diffuse discontent into concrete complaint rather than ‘real’ concerns. Opponents, once banded and mobilised, were seen to wield considerable power, as their core consisted of relatively affluent and articulate members. Individual opponents were characterised more negatively as being obsessive, emotive, vociferous and even aggressive. By contrast, supporters were characterised as a largely passive, placid and silent majority. A paper containing these findings is in preparation for submission to the journal Public Understanding of Science.

b. Emotiveness of public opposition

Developers in particular tended to imagine publics as making emotional responses to development proposals. Whilst some interviewees saw these as unreasonable and illegitimate, others saw them as an understandable, inherent part of the politics around developments such as wind farms. Despite this, there was a recurrent demand for decision-making processes to be kept strictly unemotional, objective and rational; and a recurrent critique of local councillors as being susceptible to the influence of emotionally-based ‘scaremongering’. This raised the issue of how emotionality is explained and evaluated by industry and policy actors and how it is responded to. If emotions are granted a role, then applying models of objection that misrepresent its motivation, and shaping engagement processes so as to avoid or neutralise them, will in itself make the assumption that “the public will always
protest” a self-fulfilling prophecy. We can also interpret the way in which developers represent opposition as emotional as being part of their strategy of denying that decisions to turn down applications might in fact be ‘good’ decisions. In neither respect does this enhance the likelihood of productive interactions or aid decisions about what constitutes a socially appropriate low carbon future. This material is explored in more detail in a paper accepted for publication in *Emotion, Space and Society*.

c. evolving visual representations of publics/technologies

Longitudinal analysis of visual images of RETs, with attendant textual materials, in UK tabloid and broadsheet newspapers across 2006 and 2007, showed the dynamic nature of technology representations contained in satirical cartoons, advertising and business/investment articles. Images of RETs increased in number over time and became more ‘mainstream’, moving from being predominantly lacking in publics and located in business and commentary sections of papers in 2006, to often featuring children in advertising for energy products and services located in other sections of papers in 2007. Analysis of attendant textual materials revealed that, even when absent from images, publics were often referred to in relation to issues of NIMBY opposition and trust in scientists and experts. Images of onshore wind turbines predominated and fulfilled a variety of symbolic and discursive functions: they were iconic of a diverse array of RETs including biomass and solar, and as such were often used to represent RETs generally in media debate over nuclear vs. renewable energy futures. Findings will be published in a book chapter in the Earthscan text and a paper in the journal *Visual Studies*.

Q2. How have models of public engagement influenced the practices of renewable energy stakeholders?

Analysis of the interview data revealed that engagement was considered to be a reasonable expectation of normal business, warranted in relation to both normative and instrumental rationales. Two facets were identified - information provision and addressing concerns - which closely mirrored two dimensions of imagined publics: a lack of knowledge and the presence of concern. To some extent these have the effect of circumscribing the likely nature and value of engagement initiatives (Stilgoe, 2007) – there is only so much that engagement can achieve in the face of what is seen to be ignorance about the working of RETs, and a range of concerns, variously ranging from understandable to irrational, that are attached to the imagined presence of the installation. Timing of engagement was seen as critical because of the negative nature of public reactions that were anticipated if the timing was wrong. The implicit model of a public requiring information militated against early engagement because of the likelihood that the accuracy of that information would change as plans changed. Interviewees juxtaposed public meetings and exhibitions as a way of explaining their preferences for engagement mechanisms. Public meetings were accorded less legitimacy as it tended to be attended by people with negative views who were keen to attend and speak out. Exhibitions could enable more acceptable views to be voiced and more reasoned interactions, thus
allowing the imagined public to be managed more effectively. However, this priority to defuse or avoid antagonistic interactions is challenged by Ellis et al (2007) who note the value of making agonistic positions more, rather than less, visible. A paper containing these findings has been submitted to Public Understanding of Science.

Q3. What impacts are models of public engagement having upon technical development pathways?

As previous sections have indicated, there is evidence of a shared imagination of ‘the public’ at work, working across as well as within technology sectors (e.g. marine learning from the experience of wind). We identified a range of implications and influences that this shared imagination has had and continues to have for different aspects of the development of RET in the UK. To a limited degree, the ‘upstream’ engineering and design of technical objects has been influenced in matters of aesthetics, but also sometimes more fundamentally for example in the early move away from two-blade wind turbines and in current marine technology development where limiting visual impact above the water line and avoiding impacts on sea mammals are seen as key success criteria. Expectations of the public are seen as more substantially having shaped spatial strategies of deployment, including decisions about where not to invest (by banks as well as developers wanting to avoid ‘difficult’ publics), repowering existing sites rather than establishing new ones and the trend towards moving offshore and away from people’s ‘backyards’. In these ways we concluded ‘the public’ have become, to some degree (and for good or bad) ‘inscripted’ in the evolving form, distribution and politics of RET development. These findings and their implications are discussed in a paper accepted for publication in Environment and Planning A.

Q4. How is engagement being practised and with what outcomes?

A. Engagement methods and benefit provision:

Drawing on our case study datasets, we found that information provision (in some cases alongside community benefit offers) was the most typical form of engagement practised by developers in the case studies, through mechanism such as exhibitions, information leaflets and websites. In contrast, deliberative or participatory mechanisms of public engagement were absent, as were cases of full or partial local ownership. The deployment of ‘community benefits’ evolved over the course of the project, with differences across technology sectors. Our case studies suggest that the wind industry has increasingly standardised modes of provision as an attempt to re-localise benefits and gain greater acceptance. Developers’ discourses stressed ‘good neighbour’ motivations, sometimes linked to corporate social responsibilities. Other technology sectors appear to be taking a less consistent approach; marine technologies are still struggling with their financial viability and deferring community benefits to a later date.

When community benefits are provided, there are tensions for developers in knowing how best to organise and present the provision of benefits to local
communities and avoid accusations of bribery. Careful strategic judgements are being made as to the timing of negotiation and communication and how community funds will be managed. That local publics can readily interpret community benefits as forms of bribery is evidenced in our case studies (e.g. 49% of Llandudno survey respondents agreed that the benefit offer was ‘a bribe to silence local opposition’). For those who decide to actively oppose developments, this is an obvious argument to make, and we found a significant correlation (Pearson’s r = -.631) between perceptions of bribery and low levels of project support in the Gwynt y Mor case study. But this interpretation also extended to people who were less directly engaged - there was a strong feeling that local people should get a share of benefits from such project and the provision of local benefits in the form of cheaper or even free electricity was often talked about as a preferred mechanism. This material is discussed in papers submitted to the Journal of Environmental Policy and Planning and the Journal of Environmental Planning and Management.

B. Patterns of public response

1. Levels of support and ‘NIMBY’ assumptions:

Combining the survey datasets from each case study (a total sample of 2911), we identified that a majority of respondents were supportive (55.1%) or neutral (32.4%) about RE generally, with only 12.6% indicating a lack of support. The picture for specific RE projects was more varied, with a range of supportive (38.1%), neutral (38.2%) and oppositional (23.7%) attitudes. Comparing sectors, marine energy was most favourably supported by local residents, while levels of support for other technology sectors were lower and more varied. Lack of trust in developers was consistently found (e.g. 28.8% of all respondents ‘did not trust the developer at all’ and only 24% felt that developers ‘would act in everyone’s interest’). There were also concerns about the fairness of planning procedures (only 19.2% agreed that planning procedures were fair and only 18.5% disagreed that the process was secretive).

Using the whole survey dataset, linear multiple regression analysis was conducted to investigate the relative importance of different factors in directly explaining levels of project support (F = 240.07, p<.000, 63% adjusted variance explained). The main factors were:

a. that the project would bring drawbacks or benefits to the individual (Beta coefficient = +. 28)
b. support for the technology sector more generally (+. 25)
c. that the project would bring drawbacks or benefits to the local area (+. 17)
d. that the developer had listened to local residents (+. 11), acted fairly (+.08) was trusted (+.08) and provided truthful info (+.07)
e. that the planning process was fair and transparent (+.07)

The findings suggest that variables concerning personal and local impacts, the technology sector, developer engagement and planning procedures were more
important in explaining levels of support in comparison to factors such as levels of concern about climate change or socio-demographic characteristics. That personal level benefits emerged as the single most important factor suggests that self-interest is an important aspect of project support (as the NIMBY concept presumes). Investigating other aspects of NIMBYism, we found that only a very small proportion (2.3%, 61 of 2674) of respondents indicated the classic NIMBY attitude of being strongly in favour of renewable energy generally, but strongly against a local proposal. Moreover, we found no significant association between levels of project support and personal factors such as length of residence in the area, age or perceived proximity to the project site. These analyses indicate a lack of empirical support for many aspects of the NIMBY concept, and also suggest that aspects of imagined publics held by RET industry actors (e.g. expectations of self-interested responses, see Q1, part A above) may be shaping normative responses by publics to developer-led proposals. It is also important to note that the relative importance of general factors is likely to vary in specific cases, depending upon local context and circumstance. A journal article based upon these findings is in preparation for submission to the journal Energy Policy.

2. Place-related meanings and attachments

Analyses of qualitative data from interviews and focus groups across the case studies underscored how the character of a place was sometimes used in discourses of opposition. Typically, this involved contrasting the characterisation of the place as valuable and often ‘natural’ (e.g. area of outstanding beauty) and the proposed project as ‘industrial’ (e.g. polluting, large scale, an eyesore, corporate greed), and therefore inappropriate. Conceptually, we have developed the relation between such ways of thinking and aspects of the self or identity, drawing on previous work on ‘disruption’ to place attachment (Brown and Perkins, 1992) and ‘threat’ to place identity (Bonaiuto, Breakwell and Cano, 1996). The argument that propagating symbolic contradictions can lead to perceptions of threat by residents with high levels of place attachment (and to oppositional behaviour such as petition signing or letter writing) was put forward as an alternative to the ‘NIMBY’ explanation. It was also emphasised as a potential explanation for project support, in contexts where project-related meanings were interpreted to ‘fit’ with the perceived character of the locality, thus enhancing rather than disrupting place attachments or identities. These ideas are discussed in more detail in one book chapter and in the paper accepted for publication in the Journal of Community and Applied Social Psychology.

We have begun to empirically investigate these ideas and, using survey data, have identified variation in the strength of association between place attachment and project support across cases, varying from significantly negative (e.g. Llandudno/Gwynt y Mor offshore wind case), to zero-order to significantly positive correlations (e.g. Strangford village and the SeaGen tidal case). Nature/industry contradictions were prominent in opposition to the Gwynt y Mor wind farm, but these differed by place of residence, with residents in Llandudno (a place represented as ‘natural’ and a haven for tourists) expressing lower levels of support in comparison to residents in Colwyn Bay (represented as ‘run down’ and in need of
investment). Levels of place attachment explained individual differences amongst Llandudno participants, whereby individuals with strong place attachment indicated more negative emotions about the project, lower levels of support and more frequent undertaking of oppositional behaviour. These ideas are further discussed in a book chapter and a paper under review with the *Journal of Environmental Psychology* (nominated output B). A second paper investigating the Strangford case is under preparation for submission to *Environment and Behaviour*.

**Q5. How may current conceptualisations of public engagement be advanced both theoretically and in shaping practices of participation and involvement?**

One of the overarching objectives of the project was to devise a new conceptual framework for understanding public engagement with RET. From the outset, engagement was conceived as a two way process encompassing how developers and other actors engage with publics about RETs, and how publics engage with particular technologies and processes. Initially, this sought to encompass the full range of scales, technologies and modes of implementation that apply to RETs and how these relate to multiple potential roles for the public (written up as a paper in the journal *Area*). Since the focus of our case studies was on private sector developer-led projects, we developed a second version representing public responses as an interaction between the characteristics of ‘project and developer’ and ‘people and place’, with key dimensions such as perceived benefits, trust and fairness dynamically shaped by these characteristics. This version went through several iterations and was discussed at the 2nd Advisory Panel meeting and Practitioner Workshop. Feedback broadly verified the structure of the framework as representing the key factors and processes involved, but additional detail was usefully added in. However, there was still some dissatisfaction that this second framework did not encompass parallel work we had completed in the interview study nor adequately represent the dynamism of perceptions and responses we had observed across the period of the project more generally, and within the case studies and visual analysis particularly.

The third and final version of the framework (see Figure 1 for top level version) is therefore structured around two interacting circles, one representing the dynamic evolution of expectations (of publics) and engagement actions amongst networks of industry and policy actors; the second representing the dynamic evolution of expectations (of projects and processes) amongst local publics in particular places. The interactions between these two sets of dynamics, in the form of the debate around particular projects, are at the centre of the framework. Our contention is that the relationship between expectations and engagement actions working in both directions (developers with publics, and publics with projects) cannot be conceived in a static way, but that these evolve and interact over time, both within a specific project and longer term across multiple projects as developers and other actors experience (or learn about) public responses, develop expectations and (re)formulate pre-emptive engagement strategies (as well as to some degree locational strategies and technology deployment).
Figure 1: Conceptual Framework of Public Engagement with Renewable Energy Projects

As the framework shows, a particular project experience is very much contextualized in time and in place with a range of ‘people and place’ factors shaping beliefs amongst local people and how these may evolve into active engagement or protest/support actions. The framework therefore draws together the different elements within the project and combines different disciplinary insights. A book chapter and journal paper focused on fully detailing and explaining the framework is under preparation.

To conclude, the research found evidence of substantial social consent for renewable energy and little reason to support the continued use of the NIMBY concept, not only since it is inaccurate in some respects and pejorative, but because this way of imagining publics, with its strains of emotiveness posing an ‘ever present danger’ to project proposals, seems to be shaping public expectations of and responses to RET proposals. We conclude that, rather than using NIMBYism to undermine legitimate questioning of particular projects, industry and policy makers should focus on protecting social consent for what is a key part of a low carbon future. No simple formula will achieve this, as each place and project has distinctive characteristics, but our findings show the particular importance of:

a. recognising the complex and problematic nature of community benefit offers and the ways these shape public responses to project proposals, particularly regarding perceptions of ‘bribery’, and the potential for local power supply
b. addressing public concerns of being adequately ‘listened to’ by RET developers, for example by experimenting with deliberative mechanisms of public engagement

c. taking account of public concerns about a lack of fairness and transparency in land-use planning for RETs in the development of new procedures (e.g. the Infrastructure Planning Commission), and particularly regarding tensions over Welsh/English decision-making

d. recognising the importance of aligning technology proposals with the symbolic-affective attributes of specific places, in order to minimise the propagation of ‘nature/industry’ contradictions and avoid perceptions of threat arising in residents with strong place attachments

Activities

A project advisory board met on three occasions (2006, 2007 and 2009) attended by Prof. Judith Petts (Birmingham); David Still (Clipper Wind, on behalf of the Department of Trade and Industry/DECC); Dr. Clare Haggett (Newcastle); Prof. Malcolm Eames (Brunel/Cardiff), Mr. Al Hanagan (Good Relations consultancy); Dr. Mike Hodson (Salford), Dr. Wouter Poortinga and Prof. Nick Pidgeon (Cardiff). Meetings proved extremely useful to gain feedback on initial findings, plan subsequent work and network with parallel research projects.

Two practitioner workshops were held. The first took place in Manchester in May 2007, attended by individuals representing NGOs (e.g. CPRE, National Energy Foundation), Local Authorities (e.g. Powys County Council), Renewable Energy Developers (e.g. RWE/npower), Public Relations and Planning Consultants. The meeting disseminated initial findings and gained feedback from practitioners about the evolving conceptual framework and plans for case study research. Summary notes from the workshop were written up and fed back to all attendees following the meeting. A final workshop and dissemination event, co-funded by the ESRC Communications team, was held in May 2009 at the Royal Society, London, attended by 60 individuals from policy, industry and academic communities from the UK and overseas (see Appendix 3 for the list of attendees). It involved the reporting of findings and a plenary discussion, chaired by Prof. Petts, with a panel consisting of members of the project team and representatives from DECC and CPRE.

Outputs

The multidisciplinary and applied nature of the project is reflected in varied publication outlets. A series of journal articles and book chapters have been produced, with others in the process of production and publication emerging from the research (see Appendix 1, and nominated outputs A and B). To date, four articles have been accepted for publication, with a further four under review and nine in preparation. A book contract has been signed with Earthscan, edited by P. Devine-Wright, with contributions from members of the project team and international experts. Non-technical summaries of each case study and for the project as a whole
were made available to each attendee at the final workshop, and are available on the websites for the project and ESRC’s Society Today. A total of 32 presentations on the project have been made (with a further 11 planned) to international and UK conferences, invited seminars and briefings to policy makers and industry (for a full list see Appendix 2).

**Impacts**

Regarding policy, a number of written submissions to policy consultations were made at EU and UK levels (see appendix 1). Policy makers from CLG, DEFRA and DECC contributed to the 2nd workshop and we have provided briefings of findings to the Welsh Assembly and to DECC, including one meeting specifically requested by DECC on community benefits. Scottish Renewables (the major industry-wide association) explicitly took up ideas in the first version of our framework about multiple public roles in relation to RET and has used these to structure its ongoing public engagement strategy. Findings have also been disseminated via P. Devine-Wrights’ role as Lead Expert for the DIUS Foresight project on Sustainable Energy and the Built Environment (2007-2008), as a member of the team evaluating the Big Energy Shift public dialogue (2009), as an expert consulted by DCLG in their ‘Starting Gate’ review of policy on Ecotowns (2009) and as a contributor to a policy seminar organised by the British Psychological Society planned for October 2009. The recent announcement of a ‘citizen-led green villages, towns and cities’ policy initiative, to a degree reflects the positive impact of project findings emphasising public engagement and place-based approaches in RET deployment.

Regarding practitioners, findings have been taken up by a variety of organisations in the UK and internationally, including CPRE (who participated in the 2nd workshop and created a summary of key findings for their Directors), a wind energy support group (Pro-wind Alliance - [http://prowa.org.uk/](http://prowa.org.uk/) and strategic planners in the UK and internationally (e.g. Norfolk County Council and Warrnambool City Council, Australia). Two members of the project have been invited to play roles in developing wind energy projects (including for their own University) and briefings of findings have been provided to wind energy developers (e.g. npower Renewables, see appendix 2). Representatives of the BWEA attended our final project seminar, interviewed the project team for the BWEA Magazine, and have requested a summary report on the marine sector, as well as a seminar on wind energy at BWEA headquarters, London.

Academic impact of the project is evidenced by the citation of outputs in recent journal articles (e.g. Upham et al., 2007; Aitken, McDonald and Strachan, 2008; Hindmarsh and Matthews, 2008; McLymont and O’Hare, 2008; Rogers, Simmons, Convery and Weatherall, 2008; Wolsink, forthcoming), by the quantity of invited keynotes and presentations, by the willingness of academics internationally to contribute to the Earthscan text, and by invitations to sit on advisory panels for parallel research projects (e.g. P Devine-Wright for the Cardiff/Sheffield/UEA Risk project). Specifically, the project has impacted upon an EU FP7 project (WAVETRAIN2), which applied our findings to the assessment of ‘non-technical
barriers to fast European implementation of wave energy’ (Julia Fernandez Chozas, personal communication).

Media coverage of the project has included radio interviews (e.g. BBC Radio Cardiff on Gwynt y Mor) and newspaper articles (e.g. Telegraph online, 30/07/09), covering specific issues such as the emergence of local support groups (BBC R4 You and Yours) and the more general issue of ‘NIMBYism’ (BBC R4 Costing the Earth) (see appendix 2 for a complete list).

Future research priorities

The project team is already pursuing related lines of research informed by this project, submitting new proposals making international comparisons in the context of EU project proposals and scoping the role of art in public engagement with wind turbines (led by Northumbria); extrapolating findings to the domains of coastal assessment, in collaboration with ARUP, and mineral extraction, in collaboration with the British Geological Society (led by Manchester); researching small-scale hydro and developing further collaborative research projects through the InCluESEV research cluster (led by Lancaster).

Aside from these, future research could:

a) Adopt a longitudinal design to investigate specific projects across planning, construction and operational phases. This would provide a dataset that better reflected the dynamic interactions between engagement with and by publics outlined in the conceptual framework.

b) Our case studies revealed the growing role of the Advertising Standards Authority (ASA) adjudicating contested claims by different actors. Future research could investigate the role of ASA judgements in shaping the practices of action groups and tracing its impacts upon perceptions of trust held by local residents.

c) Our findings suggest that ‘imagined publics’ are represented both visually and verbally. Future research can investigate if the patterns observed between 2006/7 have continued over time, as well as the use of imagery by developers in the context of engagement with specific projects.
Annex 1: Written outputs of the Beyond Nimbyism project

1. Working papers:


2. Non-technical summary reports:

Beyond Nimbyism: Project Summary Report

Beyond Nimbyism Case Study Summary: Gwynt y Mor offshore wind farm, North Wales

Beyond Nimbyism Case Study Summary: Lincs offshore wind farm, Greater Wash, England

Beyond Nimbyism Case Study Summary: ASDA single wind turbine, Falkirk, Scotland

Beyond Nimbyism Case Study Summary: ASDA single wind turbine, Northampton, England

Beyond Nimbyism Case Study Summary: Ladymoor wind/hydrogen project, Ayrshire, Scotland

Beyond Nimbyism Case Study Summary: Wave Dragon wave energy project, Pembrokeshire, Wales

Beyond Nimbyism Case Study Summary: Lunar-E.On tidal stream project, Pembrokeshire, Wales

Beyond Nimbyism Case Study Summary: Marine Current Turbines, Strangford Lough, N. Ireland

Beyond Nimbyism Case Study Summary: Merevale & Blyth Estates Biomass Plant, Warwickshire, England

Beyond Nimbyism Case Study Summary: Prenergy Biomass Plant, Port Talbot, Wales

3. Academic journal articles:

Accepted for publication


*Under review*


Devine-Wright, P. and Howes, Y. Disruption to place attachment and the protection of restorative environments: a wind energy case study. *Special issue of the Journal of Environmental Psychology on ‘Place, identity and environmental behaviour’.*

Evans, B., Parks, J. and Theobald, K. Urban wind power and the private sector: Community benefits, Nimbyism and public engagement. *Journal of Environmental Planning and Management*.

*In preparation*


Burningham, K., Barnett, J. & Sveinsdottir T. ‘It’s not as green as its made out to be’: using environmental discourses to oppose the siting of renewable energy technology. *Environmental Politics*.


Devine-Wright, P. Place attachment and public support for energy technologies: a tidal energy case study. *Environment and Behaviour*.


**3. Edited Book on Public Engagement with Energy Technologies to be published by Earthscan**


*Chapter titles and contributors:*

Introduction – Patrick Devine-Wright
Section 1: Conceptual and methodological approaches to public engagement with energy technologies

1. Projects, places and processes: a framework for understanding public responses to renewable energy project development (Walker et al)
2. Engaging Objection? Agonism, mediation and a low carbon future (Ellis and Barry)
3. The principles, procedures, and pitfalls of public engagement in decision-making about renewable energy (Haggett)
4. The multiple roles of ‘the public’ in renewable energy implementation: exploring public engagement with socio-technical configurations (Walker and Cass)
5. Putting renewable energy into ‘place’: psychological aspects of public engagement and acceptance of energy technologies (P Devine-Wright)
6. Energy Sustainable Communities: public participation in view (Schweizer-Ries and Rau)
7. Picturing public engagement with renewable energy technologies (H Devine-Wright)

Section 2: Empirical studies of public engagement

Part 1: Stakeholder representations of publics and public engagement

8. Conceptions of Public Engagement with Civil Nuclear Power in the UK: Framing ‘low carbon’ technology, framing public(s) (Pidgeon et al.)
9. Conceptions of public engagement with UK electricity network technologies (Cotton and P Devine-Wright)
10. Stakeholder views on public engagement: prominent in contrasting core beliefs about renewables implementation (Wolsink)

Part 2: Case studies of public engagement and acceptance of diverse energy technologies

Future energy scenarios

11. Reducing the heat Down Under/Turning the heat off/Turning the heat on: Public engagement in Australia’s energy future (Ashworth and Littleboy)

Wind energy

12. Socio-environmental impacts of Brazil’s first large-scale wind farm (Improta and Pinheiro)
13. A tale of two places: understanding public engagement and acceptance of offshore wind energy (Howes and P Devine-Wright)
14. Public acceptance of offshore wind power projects in the United States (Firestone, Kempton and Andrew Krueger)

Solar energy and microgeneration

16. Shaping people’s engagement with microgeneration technology: the case of solar photovoltaics in UK homes (Abi-Ghanem and Haggett)
17. Yes in my back yard: UK householders pioneering microgeneration heat (Roy and Caird)
18. Governing the Reconfiguration of Energy in Greater London: Envisaging, Enacting and Evaluating Public Engagement (Hodson and Marvin)

Marine energy

19. Symbolic interpretations of wave energy in the UK (McLachlan)

Hydrogen energy:
20. The limits of upstream engagement in an emergent technology: lay perceptions of hydrogen energy technologies (Flynn, Bellaby and Ricci)

Bioenergy

22. Energy Devolution: the case for decentralising control over energy policy – lessons from UK bioenergy (Upham, Shackley, Thornley and Speakman)

Carbon capture and storage

23. Keeping carbon capture and storage stakeholder involvement in perspective: community responses in three US regions (Bradbury et al)

Conclusions (Devine-Wright)

4. Chapters contributed to other books


5. Written submissions to policy consultations

- Consultation on ‘Effective Consultation’ Policy (July 2007)
- EU Open Consultation on EU Action to promote Offshore Wind Energy (June 2008)
- BERR Consultation on Renewable Energy (Sept 2008)
Annex 2: Presentations arising from the Beyond Nimbyism project


Devine-Wright, P. (2007) *Renewable energy, disruption to place attachment and wellbeing.* Invited presentation to ‘Climate Change and Wellbeing Workshop’, Centre for Wellbeing and Public Policy, University of Sheffield, November 22nd.


Planned:


**Briefings to industry**


**Briefings to policy makers**


**Media and professional reporting**

**Trade press**


**Academic press:**

The Psychologist Magazine (British Psychological Society) Interview with P Devine-Wright, February 2009

**Print media**


Western Telegraph (July 2009) Wave goodbye to fossil fuels? Pembrokeshire’s residents need convincing they are being told the whole story.

**Radio:**

BBC Radio Cardiff (4th December 2008) Planning Consent Given for Gwynt Y Mor

BBC R4: You and Yours (15th July 2009), Proliferation of wind farm support groups.

BBC R4: Costing the Earth (August 31st and repeated on September 3rd, 2009) on ‘NIMBYism and Green Energy Development in Britain’
Annex 3: Attendees at the second project workshop

**Public Engagement with Renewable Energy:**  
Insights from the ‘Beyond Nimbyism’ research project

20th May 2009  
The Royal Society  
6-9 Carlton House Terrace, London, SW1Y 5AG

**Participant List**

<table>
<thead>
<tr>
<th>NAME</th>
<th>ORGANISATION</th>
</tr>
</thead>
</table>
| Sara ALAN-SMITH             | Public Relations Manager, RWE Npower Renewables  
sara.alansmith@rwe.com      |
| Julie BARNETT               | Surrey University  
j.barnett@surrey.ac.uk                                                      |
| Richard BULL                | Institute of Energy and Sustainable Development, De Montfort University  
rbull@dmu.ac.uk              |
| Kate BURNINGHAM             | Surrey University  
k.burningham@surrey.ac.uk                                                  |
| Madeline CARROLL            | Ecotricity  
madeline.carroll@ecotricity.co.uk                                           |
| Simon CARROLL               | Communications Officer, Islington Council  
simon.carroll@islington.gov.uk                                               |
| Nick CHEFFINS               | EPIC-Lincolnshire  
nick.cheffins@peakhill-associates.fsnet.co.uk                                  |
| Gemma COUZENS               | Npower Renewables Offshore Development  
gemma.couzens@rwe.com                                                        |
| Patrick DEVINE-WRIGHT       | School of Environment and Development University of Manchester  
pdwright@manchester.ac.uk                                                  |
| Mary EDWARDS                | Friends of the Earth  
mary.edwards@foe.co.uk                                                       |
| Mike FELL                   | Commissioning Editor, Earthscan Publishers  
michael.fell@earthscan.co.uk                                                  |
| Jimmy FERGUSON              | Highland Alternative Energy Ltd  
jimmy.ferguson@haelgroup.com                                                  |
| Julia FERNANDEZ CHOZAS      | Spok ApS, Copenhagen  
 julia@spok.dk                                                              |
| Harriet FESTING             | Deputy Head, Renewable public engagement Department of Energy and Climate Change  
harriet.festing@decc.gsi.gov.uk                                               |
| Nick GARDINER               | Director, Energy and Utilities, Fortis Bank UK  
nick.gardiner@fortis.com                                                     |
| Jo GUTHRIE                  | Department of Energy and Climate Change  
jo.guthrie@berr.gsi.gov.uk                                                     |
| Lucy HAGG                   | Communities and Local Government  
catherine.levin@communities.gsi.gov.uk                                        |
| Emma HARDING                | Department of Energy and Climate Change  
emma.harding@decc.gsi.gov.uk                                                  |
<table>
<thead>
<tr>
<th></th>
<th>Name</th>
<th>Organization</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>19.</td>
<td>Tom HARGREAVES</td>
<td>University of East Anglia</td>
<td><a href="mailto:tom.hargreaves@uea.ac.uk">tom.hargreaves@uea.ac.uk</a></td>
</tr>
<tr>
<td>20.</td>
<td>Steve HUNTER</td>
<td>Your Energy Ltd</td>
<td><a href="mailto:natasha.rai@your-energy.co.uk">natasha.rai@your-energy.co.uk</a></td>
</tr>
<tr>
<td>21.</td>
<td>Daniel JAMES</td>
<td>Pendragon PR</td>
<td><a href="mailto:daniel@pendragon-pr.co.uk">daniel@pendragon-pr.co.uk</a></td>
</tr>
<tr>
<td>22.</td>
<td>Christopher JONES</td>
<td>University of Sheffield</td>
<td><a href="mailto:c.r.jones@shef.ac.uk">c.r.jones@shef.ac.uk</a></td>
</tr>
<tr>
<td>23.</td>
<td>Ian LAWRENCE</td>
<td>Your Energy Ltd</td>
<td><a href="mailto:natasha.rai@your-energy.co.uk">natasha.rai@your-energy.co.uk</a></td>
</tr>
<tr>
<td>24.</td>
<td>Catherine LEVIN</td>
<td>Communities and Local Government</td>
<td><a href="mailto:catherine.levin@communities.gsi.gov.uk">catherine.levin@communities.gsi.gov.uk</a></td>
</tr>
<tr>
<td>25.</td>
<td>Lorelei LINE</td>
<td>E.ON Climate and Renewables</td>
<td><a href="mailto:eleri.owen@eon-uk.com">eleri.owen@eon-uk.com</a></td>
</tr>
<tr>
<td>26.</td>
<td>Clare LOVETT</td>
<td>The Crown Estate</td>
<td><a href="mailto:gpleasants@quatro-pr.co.uk">gpleasants@quatro-pr.co.uk</a></td>
</tr>
<tr>
<td>27.</td>
<td>Paul McCLOGHRIE</td>
<td>Department of Energy and Climate Change</td>
<td><a href="mailto:paul.mccloughrie@decc.gsi.gov.uk">paul.mccloughrie@decc.gsi.gov.uk</a></td>
</tr>
<tr>
<td>28.</td>
<td>Claire MELLIER WILSON</td>
<td>The Environment Council</td>
<td><a href="mailto:clairem@envcouncil.org.uk">clairem@envcouncil.org.uk</a></td>
</tr>
<tr>
<td>29.</td>
<td>Gemma MOORE</td>
<td>Bartlett School of Graduate Studies, UCL</td>
<td><a href="mailto:gemma.moore@ucl.ac.uk">gemma.moore@ucl.ac.uk</a></td>
</tr>
<tr>
<td>30.</td>
<td>Jonas MORTENSEN</td>
<td>SuScit – Citizen Science for Sustainability, Brunel University</td>
<td><a href="mailto:jonas.mortensen@brunel.ac.uk">jonas.mortensen@brunel.ac.uk</a></td>
</tr>
<tr>
<td>31.</td>
<td>Dennis MOYNIHAN</td>
<td>SEEDA</td>
<td><a href="mailto:moyn2000@gmail.com">moyn2000@gmail.com</a></td>
</tr>
<tr>
<td>32.</td>
<td>Matthew OGILVIE</td>
<td>School of Social Policy, Sociology and Social Research, University of Kent</td>
<td><a href="mailto:mpo6@kent.ac.uk">mpo6@kent.ac.uk</a></td>
</tr>
<tr>
<td>33.</td>
<td>Paula ORR</td>
<td>Collingwood Environmental Planning</td>
<td><a href="mailto:p.orr@cep.co.uk">p.orr@cep.co.uk</a></td>
</tr>
<tr>
<td>34.</td>
<td>Eleri OWEN</td>
<td>E.ON Climate and Renewables</td>
<td><a href="mailto:eleri.owen@eon-uk.com">eleri.owen@eon-uk.com</a></td>
</tr>
<tr>
<td>35.</td>
<td>Doug PARR</td>
<td>Greenpeace</td>
<td><a href="mailto:doug.parr@uk.greenpeace.org">doug.parr@uk.greenpeace.org</a></td>
</tr>
<tr>
<td>36.</td>
<td>Andrew PAYNE</td>
<td>The Crown Estate</td>
<td><a href="mailto:gpleasants@quatro-pr.co.uk">gpleasants@quatro-pr.co.uk</a></td>
</tr>
<tr>
<td>37.</td>
<td>Judith PETTS</td>
<td>School of Geography, Earth and Environmental Sciences, University of Birmingham</td>
<td><a href="mailto:a.nixon@bham.ac.uk">a.nixon@bham.ac.uk</a></td>
</tr>
<tr>
<td>38.</td>
<td>Gary PLEASANTS</td>
<td>Quatro Public Relations</td>
<td><a href="mailto:gpleasants@quatro-pr.co.uk">gpleasants@quatro-pr.co.uk</a></td>
</tr>
<tr>
<td>39.</td>
<td>Natasha RAI</td>
<td>Your Energy Ltd</td>
<td><a href="mailto:natasha.rai@your-energy.co.uk">natasha.rai@your-energy.co.uk</a></td>
</tr>
<tr>
<td>40.</td>
<td>Gary RAW</td>
<td>Communities and Local Government</td>
<td><a href="mailto:gary.raw@communities.gsi.gov.uk">gary.raw@communities.gsi.gov.uk</a></td>
</tr>
<tr>
<td>41.</td>
<td>Keith RICHARDS</td>
<td>TV Energy Ltd</td>
<td><a href="mailto:keith.richards@tvenergy.org">keith.richards@tvenergy.org</a></td>
</tr>
<tr>
<td>42.</td>
<td>Simon ROBERTS</td>
<td>Centre for Sustainable Energy</td>
<td><a href="mailto:simon.roberts@cse.org.uk">simon.roberts@cse.org.uk</a></td>
</tr>
<tr>
<td>43.</td>
<td>Tom ROBERTS</td>
<td>Sociology Department, Lancaster University</td>
<td><a href="mailto:t.roberts1@lancaster.ac.uk">t.roberts1@lancaster.ac.uk</a></td>
</tr>
<tr>
<td>44.</td>
<td>Peter ROLTON</td>
<td>Rolton Group Limited</td>
<td><a href="mailto:penny.knighton@rolton.com">penny.knighton@rolton.com</a></td>
</tr>
<tr>
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<td>Organization/Position</td>
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<td>45.</td>
<td>Christopher ROOTES</td>
<td>School of Social Policy, Sociology and Social Research, University of Kent</td>
<td><a href="mailto:c.a.rootes@kent.ac.uk">c.a.rootes@kent.ac.uk</a></td>
</tr>
<tr>
<td>46.</td>
<td>Fionnguala SHERRY-BRENNAN</td>
<td>School of Environment and Development, University of Manchester</td>
<td><a href="mailto:fionnguala@manchester.ac.uk">fionnguala@manchester.ac.uk</a></td>
</tr>
<tr>
<td>47.</td>
<td>Neil SINDEN</td>
<td>Campaign to Protect Rural England (CPRE)</td>
<td><a href="mailto:neils@cpre.org.uk">neils@cpre.org.uk</a></td>
</tr>
<tr>
<td>48.</td>
<td>Tony SKIRROW</td>
<td>School of Environment and Development, University of Manchester</td>
<td><a href="mailto:fionnguala@manchester.ac.uk">fionnguala@manchester.ac.uk</a></td>
</tr>
<tr>
<td>49.</td>
<td>Gerda SPELLER</td>
<td>School of Environment and Development, University of Manchester</td>
<td><a href="mailto:fionnguala@manchester.ac.uk">fionnguala@manchester.ac.uk</a></td>
</tr>
<tr>
<td>50.</td>
<td>Jenny STAFFORD</td>
<td>Independent Sustainability Consultant/University of Surrey</td>
<td><a href="mailto:stafford.jenny@gmail.com">stafford.jenny@gmail.com</a></td>
</tr>
<tr>
<td>51.</td>
<td>Corinne SWAIN</td>
<td>Arup</td>
<td><a href="mailto:corinne.swain@arup.com">corinne.swain@arup.com</a></td>
</tr>
<tr>
<td>52.</td>
<td>Julia TOMEI</td>
<td>King’s College London</td>
<td><a href="mailto:julia.tomei@kcl.ac.uk">julia.tomei@kcl.ac.uk</a></td>
</tr>
<tr>
<td>53.</td>
<td>Gordon WALKER</td>
<td>Department of Geography, Lancaster University</td>
<td><a href="mailto:g.p.walker@lancaster.ac.uk">g.p.walker@lancaster.ac.uk</a></td>
</tr>
<tr>
<td>54.</td>
<td>Diane WARBURTON</td>
<td>Sciencewise/Shared Practice</td>
<td><a href="mailto:diane@sharedpractice.org.uk">diane@sharedpractice.org.uk</a></td>
</tr>
<tr>
<td>55.</td>
<td>Jodie WEST</td>
<td>Geography Dept, University of Plymouth</td>
<td><a href="mailto:jodie.west@plymouth.ac.uk">jodie.west@plymouth.ac.uk</a></td>
</tr>
<tr>
<td>56.</td>
<td>Kierson WISE</td>
<td>Severn Wye Energy Agency</td>
<td><a href="mailto:kierson@swea.co.uk">kierson@swea.co.uk</a></td>
</tr>
<tr>
<td>57.</td>
<td>Anne WOOD</td>
<td>Communities and Local Government</td>
<td><a href="mailto:catherine.levin@communities.gsi.gov.uk">catherine.levin@communities.gsi.gov.uk</a></td>
</tr>
<tr>
<td>58.</td>
<td>Sally Lees WOOD</td>
<td>Oxford Brookes Associate Eco Europe</td>
<td><a href="mailto:sally.wood@tesco.net">sally.wood@tesco.net</a></td>
</tr>
<tr>
<td>59.</td>
<td>Tim WRIGHT</td>
<td>Senior Impact Manager/Case Officer, Nimbyism Project, ESRC</td>
<td><a href="mailto:timothy.wright@esrc.ac.uk">timothy.wright@esrc.ac.uk</a></td>
</tr>
<tr>
<td>60.</td>
<td>Jingjing Xu</td>
<td>University of Plymouth</td>
<td><a href="mailto:jingjing.xu@plymouth.ac.uk">jingjing.xu@plymouth.ac.uk</a></td>
</tr>
<tr>
<td>61.</td>
<td>Anna Guyer</td>
<td>Spring Consultancy (Public Relations)</td>
<td></td>
</tr>
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Annex 4: References


BBC News (2007) Nuclear review ‘was misleading’, February 15th, Available at the following website: http://news.bbc.co.uk/1/hi/uk_politics/6364281.stm


Committee on Climate Change (2008) Building a low-carbon economy - The UK’s contribution to tackling climate change: The First Report of the Committee on Climate Change. CCC: HMSO.


Nominated outputs
