

This research project aimed to deepen understanding of the factors underlying public support and opposition to renewable energy technologies, taking a critical look at the commonly held 'NIMBY' (not in my back yard) concept and how it is used to describe and explain public opposition. The project focused first on how 'the public' and public engagement are conceived by actors in the renewable energy industry and second on how local residents perceive and respond to specific technology projects and the engagement activities undertaken by developers and other stakeholders.

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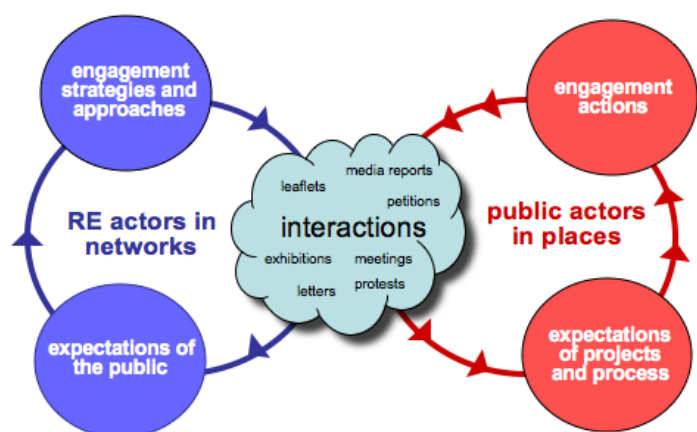
Key tasks: The project had four main parts. 1) A review of literatures in key subject areas; 2) the production of a conceptual framework of public engagement with renewable energy technologies 3) analysis of how public engagement is conceived by networks of actors in the renewable energy sector and in the media 4) Case studies of specific renewable energy projects and the engagement activities involved in each of these.

Participants in the project: A total of 3251 people drawn from Wales, Scotland, Northern Ireland and England participated in the project. 91 people were interviewed; 249 participated in 34 focus group discussions and 2911 completed the questionnaire survey administered in each of our case studies.

Project Outcomes:

Part 1: Literature Review: working papers were written on (a) Public acceptance of renewable energy (b) Participatory engagement; (c) Planning and regulatory aspects of renewable energy; (d) NIMBYism. These documents can be downloaded from the project website, in the section called 'deliverables'.

Part 2: Conceptual framework: an overarching framework for understanding the processes involved in shaping patterns of engagement and public responses to project development has been evolved during the project. The diagram below shows a simplified version of the framework's core elements. The complete version will be made available via the project website, in the section called 'deliverables'.



The framework takes public engagement to be the interaction between **two** processes evolving over time:

(a) conceptions and expectations of the public, public engagement and associated practices, held by networks of actors in the renewable energy sector (the **blue** loop) and


(b) conceptions and expectations of renewable energy technologies, developers and engagement practices held by residents living in particular places (the **red** loop)

Part 3: Analysis of conceptions of ‘the public’ and public engagement

42 in-depth, face-to-face interviews were undertaken with a cross-section of industry professionals (developers, consultants, financiers, engineers) and policy makers. In the analysis of these interviews the notion of an *‘imagined public’* was used to reveal how there are shared expectations of how and why the public will respond to renewable energy projects. The NIMBY characterisation was not always evident, but there was a clear anticipation of the possibility of public hostility, or ‘a real and ever present danger’ for project development. When opposition occurred this was characterised in particular by developers as emotionally based and outside of what they saw as ‘rational’ planning concerns. These conceptions of the public have a number of implications. First, for the design and engineering of technologies, with marine developers, for example, aware of the need to ‘design in’ potential public reactions from the beginning. Second, for the locational strategies of where projects are developed. Third, for public engagement practices. Here it was found that engagement has become routinised and not dependent directly on public responsiveness. Engagement was essentially conceptualised in terms of information provision and addressing public concerns. Preferences for mechanisms for engagement often reflected the characteristics attributed to local publics.

Part 4: Case studies of renewable energy projects

8 case studies were undertaken covering 10 projects across 4 sectors (offshore wind, onshore wind, biomass and marine). A standardised approach, involving qualitative and quantitative methods, was used to enable comparisons across projects and sectors.



Project name	Tech sector	Tech scale	Location	Local opposition	Decision maker	Planning
Gwynt y Mor	Offshore wind	750MW	Wales	Yes	DECC	Consented
Lincs	Offshore wind	250MW	England	No	DECC	Consented
Baxterley	Bioenergy	2.1MW	England	Yes	Local authority	Refused/ appealed/ revised
Port Talbot	Bioenergy	350MW	Wales	Yes	DECC	Consented
Ladymoor	Onshore wind (plus hydrogen)	48MW	Scotland	Yes	Local authority	Wind farm refused/H2 consented
Falkirk + Northants	Onshore wind (urban)	Both 2MW	Scotland and England	No - Yes	Local Authority/ Local Corp	Consented - Refused
Strangford	Marine	2MW	Northern Ireland	No	FEPA	Consented
Wave Dragon + Lunar	Marine	7MW and 16-20MW	Wales	No No	DECC	Applied for/ Not yet applied for

Engagement by developers: This typically consisted of information provision, using public exhibitions and information leaflets, with sometimes a benefit offer or local sponsorships. There were no examples of share issues or co-ownership models. The timing of engagement varied; in some cases there was no engagement prior to planning submission; in others this was extensive.

Local residents’ levels of project support: Overall, we found a range of supportive (38.1%), neutral (38.2%) and oppositional (23.7%) attitudes to specific projects. Marine energy projects tended to be most supported, whilst onshore wind projects tended to be least supported. Lack of trust in developers was consistently found, as well as strong concerns about the fairness of planning procedures. For example, in each of our Welsh case studies, there was substantial opposition to planning decisions being made in London.

Only 2% (61 individuals) of survey respondents held the stereotypical NIMBY attitude of being strongly in favour of renewable energy generally, but strongly against a proposed project. We found no significant relationship between project support and personal characteristics commonly assumed to characterise opponents, including length of residence in the area, perceived proximity of home to project site, and age. Beyond NIMBYism, our analysis showed that project support was best explained by the perception of the local impact of the project (drawbacks vs. benefits); attitude to the technology sector; the perception that the developer listened to local residents; levels of trust in the developer and the perceived fairness of planning procedures. The results of each case study project are described in separate summaries.

Conclusion: The research found evidence of substantial social consent, both for renewable energy generally and for specific projects, and little evidence to support the continued use of the NIMBY concept to explain why some people oppose project proposals. We conclude that rather than trying to dismiss and undermine legitimate questioning and criticism of particular renewable energy projects, industry and policy makers should instead focus on protecting and nurturing social consent for what is a key part of a low carbon future. No simple formula will achieve this, as each place and context has distinctive characteristics, but our findings show the importance of factors such as enhancing local benefits; timely and meaningful engagement by developers; trust; and fair planning procedures.