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## **What do we really understand about the social acceptance of wind energy**

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# *What do we really understand about the social acceptance of wind energy*



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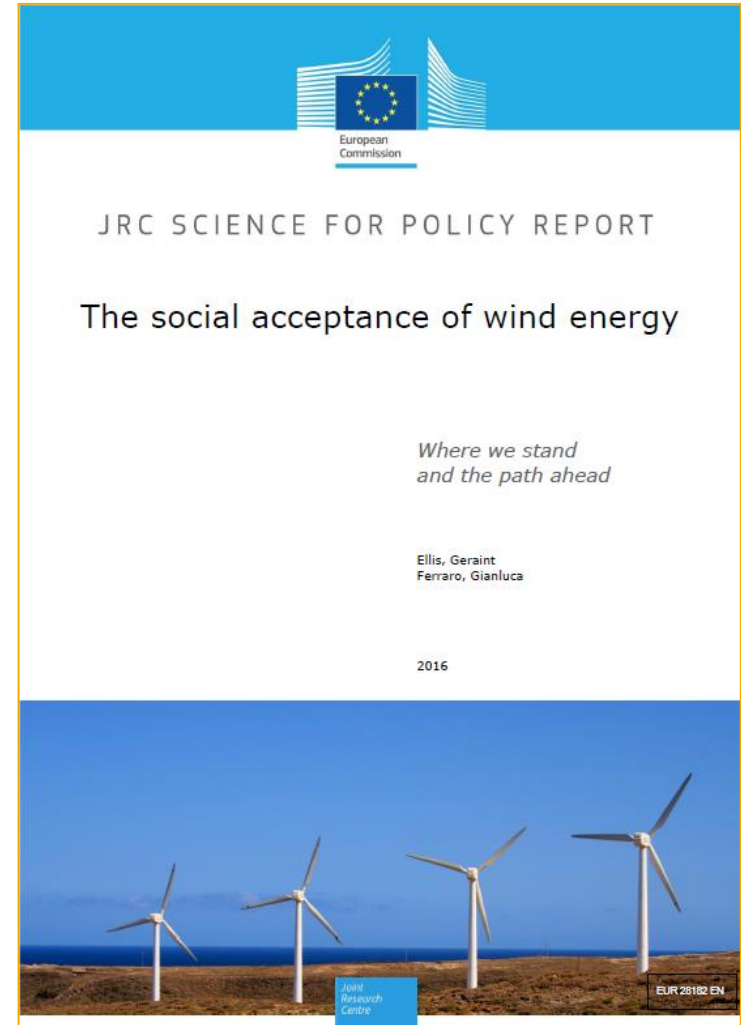
Joint Research Centre, European Commission

# Why is this important?

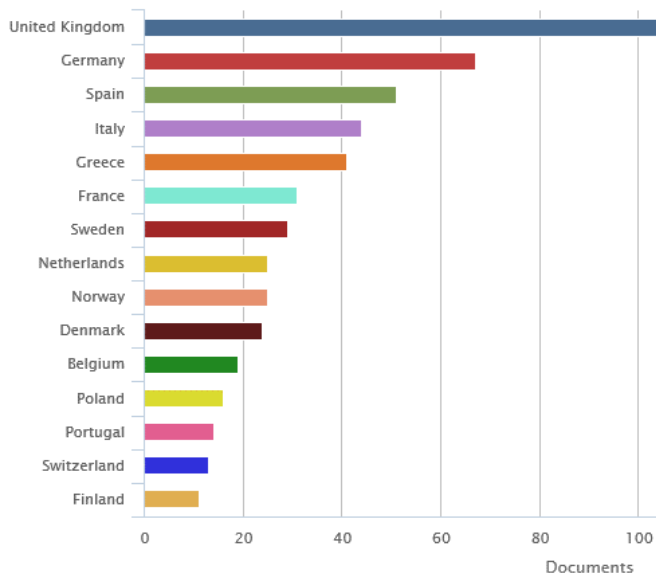
- 'Social acceptance' captures a key aspect of energy-society relationships;
- It helps define the delivery of RE, its democratic profile and the nature of future energy pathways;
- Acceptance issues appear to becoming *the* key limiting factor in expanding wind in some areas;
- Governments and developers (sometimes) respond to research in this field;
- Research on wind energy has set many of the questions and concepts for other technologies;
- A need to reflect on what we are trying to find out, and why.

# The Social Acceptance of Wind Energy: *Where we stand and the path ahead*

- Review of literature on social acceptance of wind energy undertaken for the European Commission's Joint Research Centre in late 2016.
- Report aimed to provide evidence support for EU policy.
- Reviews key conceptual issues and main drivers of community concerns including attitudes, impacts and governance of wind energy projects.
- Also focuses on future research and key implications for policy and practice.
- Report is available here:  
<https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/social-acceptance-wind-energy-where-we-stand-and-path-ahead>



# Research into Social Acceptance of Wind Energy

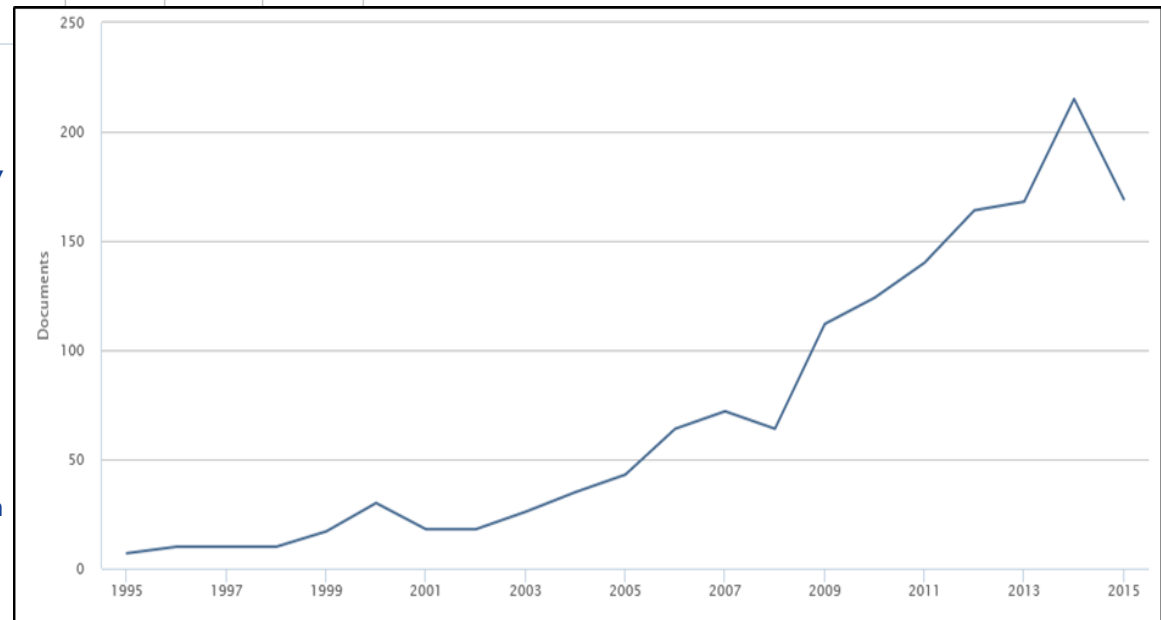


**Most common European countries affiliated with 'wind energy' and 'community' research outputs, 1995-2015.**

**'Wind energy' & 'community' research outputs, 1995-2015**

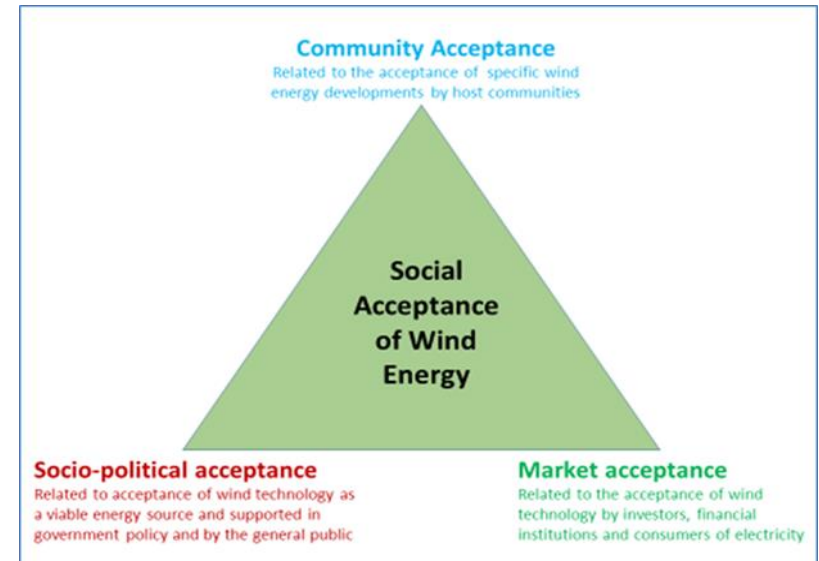
Source: Scopus

- Emphasis on peer-reviewed research, some grey literature
- Key searches + snowballing
- Focus on European context
- C.230 studies

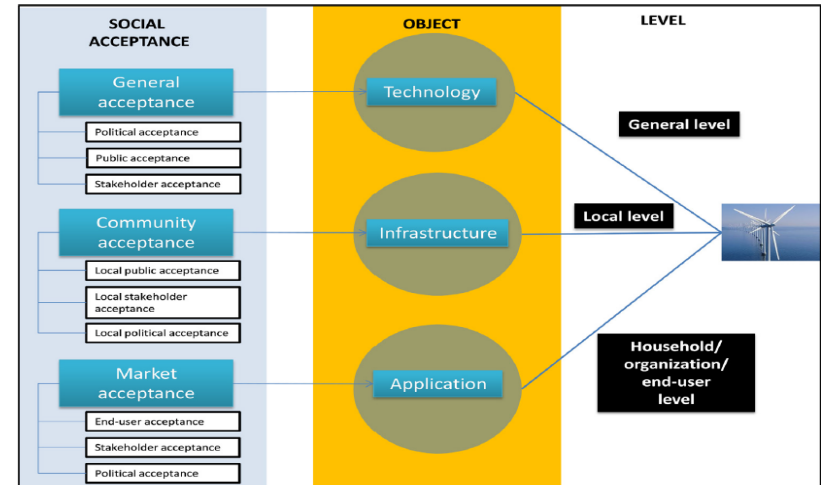


# Social Acceptance: Conceptual Issues

- From a bi-lateral public-turbine relationship to a more complex concept.
- Energy as a social-technical system.
- Relationships between communities and turbines are dynamic, context specific & complex.
- Tendency to focus on individual projects and therefore open to isolated 'fixes'.
- Concept has strong resonance with a many actors and creates an important space for debate and enquiry.
- It must also engage a range of other concepts including: power, justice, place attachment.



After Wüstenhagen et al 2007)



from Upham et al 2014

# Contexts of Social Acceptance



**'Universal' factors:**

Technological performance (noise, efficiency, cost); alternative technologies; references to wider narratives (climate change, energy security etc).

**'Political/Regulatory' factors:**

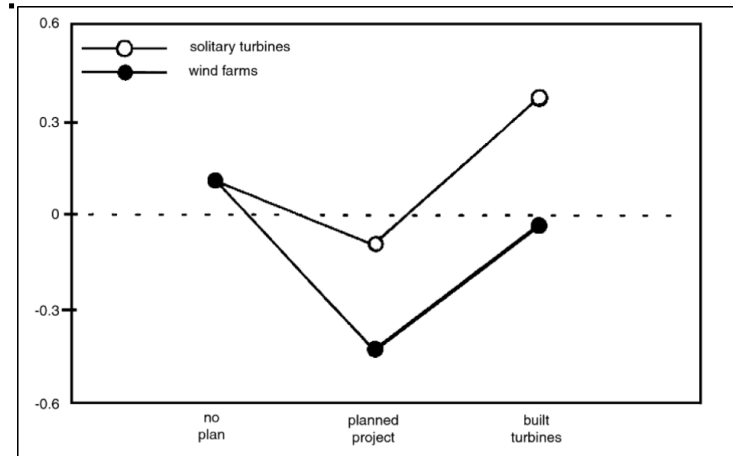
Trust; appropriateness of policy; compensation/subsidies; identification of 'acceptable' locations; defining expectations of stakeholders.

**'Project specific' factors:**

Project size; physical location; cumulative impacts; community make-up and attitudes; developer behaviour.

# Community Attitudes

- Large body of research that has examined the attitudes of host communities, mostly based on individual & isolated case studies;
- Perspectives from range of disciplines;
- Body of evidence that indicates the influence of:
  - Individual attributes (demography etc);
  - Relationships (with developers etc);
  - Context (landscape, actors etc);
  - Perceptions of process;
  - Perceived impacts.
- However, methods have constrained understanding of the complexity and dynamic nature of individual disputes, link between action and attitude and wider structural elements of the energy system.

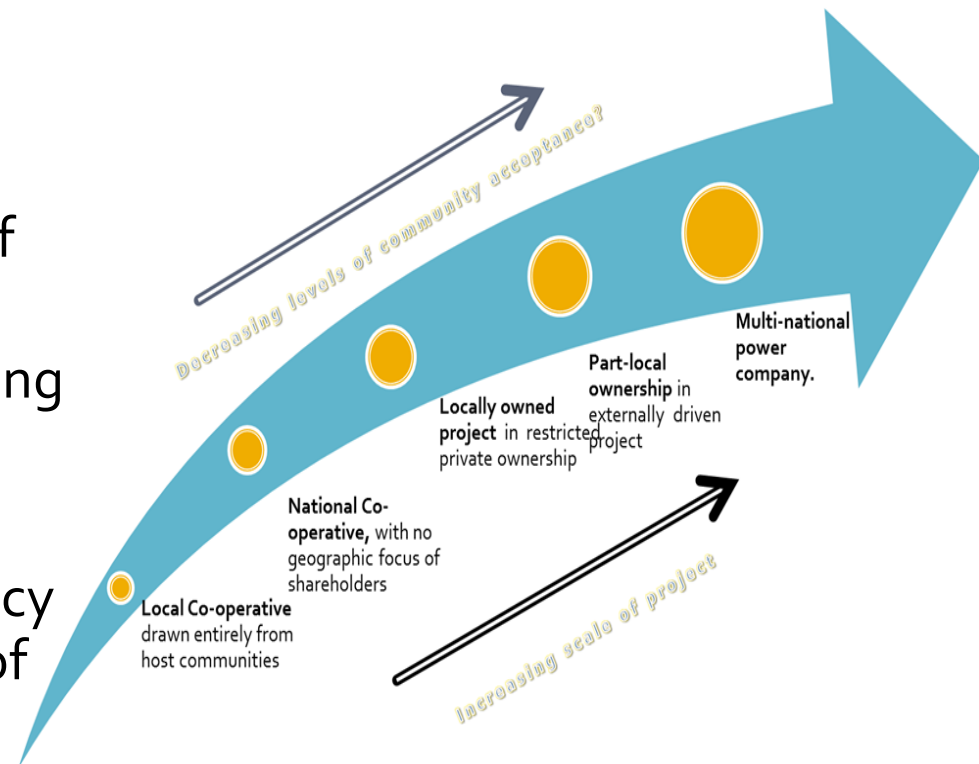


*From Wolsink 2007*



# Governance of wind energy projects

- The way in which projects are regulated shape levels of social acceptance.
- Governance factors also influence:
  - Perceived costs and benefits of projects.
  - Opportunities for benefit sharing
  - Procedural justice and participation
  - Effectiveness of the broad policy environment to take account of community concerns



# Summary of influences on social acceptance

<i><b>Issue</b></i>	<i><b>Key influences</b></i>	
<b>Individual attitudes</b>	<ul style="list-style-type: none"> <li>• Age, gender etc</li> <li>• Strength of place attachment</li> <li>• Political beliefs and voting preferences</li> <li>• Emotional response</li> <li>• Prior experience of wind turbines</li> </ul>	<ul style="list-style-type: none"> <li>• Attitudes to environmental issues</li> <li>• Psychological factors including perception of social norms</li> <li>• Individual roles (consumer, landowner etc)</li> <li>• Familiarity with wind energy</li> </ul>
<b>Relationships</b>	<ul style="list-style-type: none"> <li>• Type and level of social capital</li> <li>• Trust in government other public agencies and developers</li> <li>• Proximity to, and visibility of, turbines</li> <li>• Technology-society relationships</li> </ul>	<ul style="list-style-type: none"> <li>• Time, reflecting the dynamic nature of social acceptance</li> <li>• National-local policy</li> <li>• Regulator-Developer links</li> <li>• Discourses within and between communities</li> </ul>
<b>Contextual issues</b>	<ul style="list-style-type: none"> <li>• Policy regimes</li> <li>• Project design – turbine height, colour number and massing</li> <li>• Place attachment</li> </ul>	<ul style="list-style-type: none"> <li>• Range and mix of actors</li> <li>• Ownership of proposed project</li> <li>• Specific siting issues</li> <li>• Cumulative impacts</li> </ul>
<b>Perceived impacts</b>	<ul style="list-style-type: none"> <li>• Noise</li> <li>• Landscape</li> <li>• Shadow flicker</li> <li>• Property values</li> <li>• Level of economic benefit</li> <li>• Bio-diversity: bats, birds</li> <li>• Infrasound</li> </ul>	<ul style="list-style-type: none"> <li>• Navigation lights</li> <li>• Health concerns</li> <li>• Levels of economic benefits</li> <li>• Disruption of 'place'</li> <li>• Efficiency of turbines and wind energy</li> <li>• Distributive justice</li> </ul>
<b>Process-related issues</b>	<ul style="list-style-type: none"> <li>• Trust in institutions involved</li> <li>• Transparency and openness</li> <li>• Procedural justice</li> <li>• Expectations and aspirations of public participation</li> <li>• Availability and quality of information</li> </ul>	<ul style="list-style-type: none"> <li>• Power in the participation process</li> <li>• Value places on lay and expert knowledge</li> <li>• Timing</li> <li>• Discourses of community, developer, regulatory bodies</li> <li>• Fait accompli</li> </ul>

# Wider reflections

Effective insights on why projects face opposition but how to effectively address this remains a major challenge;

## Concepts

- Is social acceptance the best conceptual frame?
- Alternative concepts are there?
- A better understanding of context, not just objectors;
- The potential of a complex socio-ecological model of acceptance;
- Must better link to system characteristics and the process of transition

## Research direction and coherence

- Developing a more coherent and diverse community of researchers
- New research questions: e.g.
  - ownership of wind as an asset;
  - dynamics of acceptance;
  - research on effect of developer and regulator activity
  - Role of the State

# Wider reflections

## Methods

- The dominance of discrete case studies and poor comparability;
- Common research protocols;
- More methodological innovation and ambition

## Knowledge exchange

- New ways of securing co-production of evidence and innovation;
- Emphasis on complexity .... and no quick fixes.

# Thank you

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