

SOCIAL ACCEPTANCE OF WIND POWER IN THE UNITED STATES: EVALUATING STAKEHOLDER PERSPECTIVES

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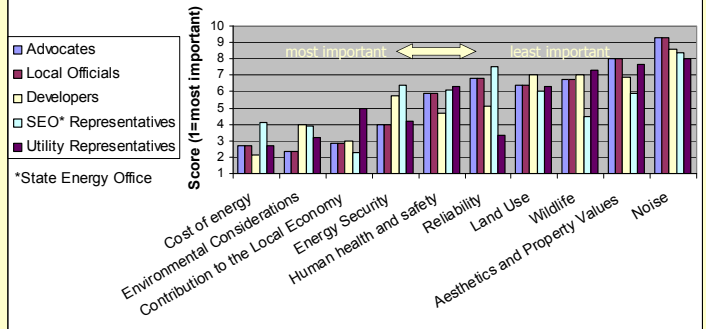
As the wind industry strives to achieve 20% wind energy by 2030, maintaining high levels of social acceptance for wind energy will become increasingly important. Wind Powering America is currently researching stakeholder perspectives in the U.S. market and reviewing findings from wind energy projects around the world to better understand social acceptance barriers. Results from European studies show that acceptance varies widely depending on local community values. A preliminary survey shows similar results in the United States. Further research will be conducted to refine our understanding of key social acceptance barriers and evaluate the best ways to mitigate negative perspectives on wind power.

WPA conducted a preliminary survey to assess stakeholder priorities on the following social acceptance issues:

- Aesthetics and property values
- Contribution to local economy
- Cost of energy
- Environmental considerations
- Energy security
- Human health and safety
- Land use
- Noise
- Reliability
- Wildlife.



Preliminary Social Acceptance Survey Results



Community Perspectives Vary Depending on Stakeholder Priorities

Support for offshore wind:

- 78% of Delaware residents
- 25% of Cape Cod residents.

Justifications:
Delaware: Electricity rates, climate change, and air quality outweigh aesthetics.
Cape Cod: Marine life, aesthetics, and recreational use are more important than electricity rates and energy independence.

Attachment to place is important in both contexts.



Cape Cod, Massachusetts (Map from the Energy Information Administration)



Hull, Massachusetts

Survey results from Firestone, J.; Kempton, W.; & Krueger, A. (2009). Public Acceptance of Offshore Wind Power Projects in the USA. *Wind Energy*, 12:183-202.

Preliminary Survey Results: Stakeholder Rankings

As stated in reviewed literature, perspectives vary across stakeholder groups. Below are individual rankings from five stakeholder groups (also shown in bar graph above). Scores are averages from individual rankings in each category. This survey is a preliminary exercise.

"Contribution to the local economy" and "Environmental" both ranked in the top three for each group of stakeholders. "Noise" ranked in the bottom two for all but one stakeholder group, and "Land use" was in the bottom three for all but one stakeholder group.

Advocates	Local Officials	Developers	State Energy Office Reps	Utility Reps
1. Environmental	1. Contribution to local economy	1. Cost of energy	1. Reliability	1. Human health and safety
2. Cost of energy	2. Environmental	2. Local economic contribution	2. Local economic contribution	2. Environmental
3. Local economic contribution	2. Energy security	3. Environmental	3. Environmental	3. Local economic contribution
4. Energy security	4. Human health and safety	4. Human health and safety	4. Human health and safety	4. Reliability
5. Human health and safety	5. Reliability	5. Reliability	5. Wildlife	5. Noise
6. Land use	6. Aesthetics and property value	6. Energy security	6. Aesthetics and property value	6. Cost of energy
7. Wildlife	7. Wildlife	7. Aesthetics and property value	7. Energy security	6. Aesthetics and property value
8. Reliability	8. Land use	8. Wildlife	8. Cost of energy	8. Energy security
9. Aesthetics and property value	9. Noise	9. Land use	9. Noise	9. Land use
10. Noise	10. Cost of energy	10. Noise	10. Land use	10. Wildlife



Negative Media Headlines Focus on Wildlife and Noise

Los Angeles Times - *Wind turbines generate a health hazard for birds*
 May 17, 1992

USA Today - *Wind turbines generate a health hazard for birds*
 May 17, 1992

September 23, 2006
Why wind generates only bluster
 By ANGELA JAMESON, The TIMES ONLINE, UK

Wind turbines taking toll on birds of prey
 By John Ritter, ALTAMONT PASS, Calif. — The big turbines that stretch for miles along these rolling, grassy hills have churned out clean, renewable electricity for two decades in one of the nation's first big wind-power projects. 1/4/05

Celebrities protest vast wind farm proposed off Mass. coast
 BOSTON (AP) — The rich and famous have long flocked to the beaches of Cape Cod and the island seclusion of Martha's Vineyard and Nantucket — a land of sailboats and quaint vacation homes.
 USA Today Aug 11, 2003

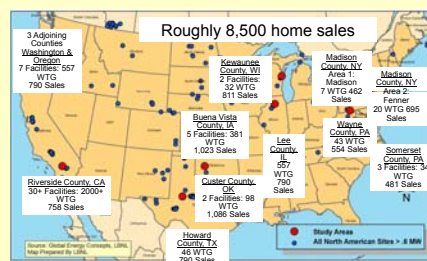
Lessons Learned from Current Literature Review



Mitigating social acceptance barriers: advice from Paul Gipe and Michael Vickerman

- Provide aesthetic uniformity
- Keep turbines spinning
- Bury power lines when possible
- Consider "good neighbor" payments
- Harmonize structures involved in project
- Control and minimize land disruption
- Avoid advertising
- Do not attempt to camouflage
- Provide public access to projects.

Property values: Do Wind Farms Impact U.S. Property Values?
 Ongoing research by Ben Hoen (LBNL) suggests they do not.



Further Research: Improving Understanding of Social Acceptance



Stakeholder and Public Perceptions

- Create a database of existing surveys
- Implement additional survey work to fill knowledge gaps.

Planning for Deployment

- Evaluate the role of state and local planning in facilitating new development
- Support proactive planning processes through State Wind Working Groups.

Distributional Justice

- Assess current developer strategies for facilitating social acceptance
- Evaluate the distribution of benefits from wind energy projects and how local ownership or community payments can reduce local opposition to projects.