

Delaware Sea Grant Project:

Mapping public perceptions and preferences toward wind power development through time (R/CT-6)

Investigators:

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Project Abstract:

This proposal expands our initial work on the socially-derived externalities of electricity generation, in particular, large-scale wind power in comparison with other power sources. In 2005 and 2006, we conducted separate, yet related mail surveys of residents of Cape Cod and of Delaware. At the time of our Delaware sample, unlike our year earlier Cape Cod sample, a credible proposal for offshore wind power development off the Delaware coast did not exist. Since that time, Delaware has joined Cape Cod, as the leading areas for the US's first offshore wind power project.

The research project will examine how knowledge, perceptions and values shape technological development and deployment of wind turbines. This will be accomplished through survey sampling and analysis in two case studies of sea-based wind power—Delaware and Cape Cod. The study will have a dynamic facet given that we previously surveyed public knowledge, values and perceptions in those two locations. As in the past, advanced sampling and statistical and modeling techniques (such as logistic regression, choice experiments, and contingent behavior analysis) will be undertaken.

In our earlier surveys, we found a Delaware population that was stunningly more supportive of offshore wind power development than that of Cape Cod. By obtaining values underlying public opinion on wind power through survey sampling in these two areas again as progress, albeit slow, continues to be made toward governmental endorsement of the offshore wind power projects, the proposed research will illuminate in a dynamic fashion relationships among society, wind power technology, seascapes, beliefs and attitudes to shed light on society's vision of the future regarding climate change and new energy technology. It also is of broader theoretical interest, as it addresses the more general question of how to incorporate societal views of emerging technologies into policy decisions.

The research will serve a useful policy function as an adjunct to policy formation and implementation as the United States and Delaware strive to generate electricity with reduced environmental and human health impacts and to decrease dependence on foreign sources of energy and move toward non-carbon based economies. Understanding how opinions change over time will be of value in particular in Delaware and Cape Cod, and more generally nationally and internationally, given the paucity of studies worldwide on public perceptions and preferences regarding offshore wind power development. The research will be of additional value because the fate of each project remains up in the air. Because the research will shed light on how the public perceives the development of wind power given the state of knowledge of environmental and human health benefits of wind power and climate change, it also will provide guidance on where education would be beneficial.

The results of the research directly tie-in to an existing interdisciplinary graduate seminar on wind power as well as be an asset to several other courses and, as with our prior work, provide a basis for graduate student research, publications, and theses and dissertations. We also will make the results available on our wind power working group website, www.ocean.udel.edu/windpower.