



# Industrial Wind Action Group

facts, analysis, exposure of wind energy's real impacts

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## EXPERT: FLAWED METHODOLOGIES USED IN U.S. DOE STUDY ON PROPERTY VALUES AND WIND POWER PROJECTS

### *Serious questions raised concerning the credibility of the results*

NEW HAMPSHIRE (February 15, 2010) -- Real estate appraisal experts are challenging the scientific credibility and accuracy of a recent US Department of Energy ("DOE") report on the effect of wind power projects on property values. A [new paper](#) asserts that well known flaws in the methodology used in the study raise serious questions concerning the credibility of the results, and the DOE report's authors failed to follow any of the well-developed and tested standards for performing regression analyses on property sales.

The Department of Energy's [Lawrence Berkeley National Laboratory report](#) titled "The Impact of Wind Power Projects on Residential Property Values in the United States: A Multi- Site Hedonic Analysis" released December 2009 generated [media headlines](#) claiming "Wind farms have no effect on property value." The report asserts that an analysis of residential home sales across the United States found no evidence that home prices surrounding wind facilities were "consistently, measurably, and significantly affected by either the view of wind facilities or the distance of the home to those facilities". While the authors acknowledge that individual homes in proximity to the towers may be negatively affected, such impact was declared "either too small and/or too infrequent to result in any widespread, statistically observable impact".

The authors relied on a methodology known as *Multi-Site Hedonic Analysis*.

The DOE study caught the attention of [Mr. Albert Wilson](#), a valuer of environmental impacts on business and real estate with more than 25 years experience who has specifically studied hedonic analyses of real estate for more than a decade, and has taught and written extensively on these impacts and methods.

"I have no opinion concerning the effect of wind power projects on residential property values," Wilson told [Windaction.org](#). "However, I was compelled to respond professionally when it became apparent that the latest report by the Department of Energy was predicated on flawed methods – flaws that are well known in the literature but apparently ignored or missed by the report's authors."

In his paper, "[Wind Farms, Residential Property Values, And Rubber Rulers](#)" Wilson writes that the underlying methods used in the development of the DOE study raise serious questions concerning the credibility of the results. In particular, the authors failed to follow any of the well-developed and tested standards for performing regression analyses on property sales.

"There are literally thousands of possible real estate regression models. Absent published and recognized standards on the validation of data, model development and testing, and calibration of the model

against the real world market, a regression may be nothing more than a *rubber ruler* that can be stretched to provide a desired result," he wrote.

And since any hedonic analysis depends entirely on the accuracy and reliability of the regression used, if the underlying regression does not conform to recognized standards, Wilson argues there can be no independent assurance of that accuracy or reliability.

Offering specifics on the study's flaws, Wilson is highly critical of DOE's nationwide approach whereby thousands of real estate transactions were examined in communities surrounding wind power facilities spread across the United States. The authors consolidated all of these markets and treated them as the same with little consideration of basic differences. For example, sales prices in areas of declining population and therefore decreasing demand—a majority of the areas examined—are not directly comparable to sales prices in areas of increasing population and therefore increasing demand. Even within the ten communities identified in the DOE report, such aggregation of markets is questionable. In Washington State, which was used as the base for comparison to all other areas in the study, the authors aggregated the urban market of Kennewick with the rural market of Milton-Freewater -- two very different areas some 42 miles apart!

Wilson was clear when he wrote, "The failure to recognize and account for the need for homogeneity of markets is a common failing of hedonics."

The DOE study completely ignores this point by creating an average sales price representing houses from nine states and at least 20 different markets -- a gross oversimplification that Wilson asserts cannot provide for the specificity required to answer a micro-question such as an influence on sales price from a highly localized condition i.e. distance to or view of a wind energy project.

This problem becomes even more significant when, as Wilson points out, less than 10% of the sales transactions used in the Report had any view of turbines, and only 2.1% had a view rated greater than minor. In fact, the study is dominated by transactions where no influence is reasonably likely. While the author's of the DOE study claim their analysis is "data-rich", in fact, their claim is an overstatement of the situation because of this issue.

The DOE study was three years in the making and cost taxpayers at least \$500,000. It is difficult to see how the public was served by an exercise that failed to follow even the most basic requirements for regression analysis which is the foundation on which hedonic methods are based.

*About [Windaction.org](http://www.windaction.org): Industrial Wind Action Group seeks to promote knowledge and raise awareness of the risks and damaging environmental impacts of industrial wind energy development. Information and analysis on the subject is available through its website <http://www.windaction.org/>. To subscribe to the [Windaction.org](http://www.windaction.org) weekly newsletter, visit <http://www.windaction.org/subscribe>*

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