

September 12, 2009

Mr. Ben Hoen,
Mr. Ryan Wiser

Re: Review of DRAFT report titled "Hedonic Analysis of the Impact of
Wind Power Projects on Residential Property Values in the United States"

Gentlemen;

As requested, I have read and reviewed the captioned (un-dated) draft report (Report) for the purpose of offering any appraisal review opinions as it relates to your study, analysis and draft conclusions. The date of my review is current, and the principal authors of the Report are identified as follows:

*Ben Hoen, Ryan Wiser and Peter Cappers
Ernest Orlando Lawrence Berkeley National Laboratory*

*Mark Thayer
San Diego State University*

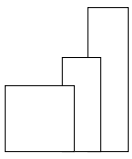
*Gautam Sethi
Bard College*

The work described in the Report was reportedly funded under contract with the U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy (Wind & Hydropower Technologies Program).

McCann Appraisal, LLC, and Michael S. McCann (McCann) has been invited to review the draft Report, and is providing the enclosed review comments on a pro-bono basis. Due to the experience and specialized knowledge possessed by McCann, as it relates to both wind farm issues and property values, McCann believes that the authors can benefit from such a review. Said experience has been developed over 29 years as a professional real estate appraiser and over 5 years of experience and involvement with wind farm projects, mainly in Illinois.

The intended users of this review are the authors of the captioned draft Report prior to finalizing said Report, for consideration by the authors in weighing the validity or reliability of their conclusions, as well as potential considerations for the authors to refine their work. Review comments by McCann are provided against the background of facts or issues that are contained in the draft Report, as well as some knowledge of data and market facts that may have been outside the scope of the Report or the methodology employed by the authors.

As it relates to the reliability of the draft conclusions, McCann notes the disclaimer contained in the report, and finds that said disclaimer is appropriate given the likely future dissemination and



reliance by zoning boards, etc., upon the conclusions of the authors. The Report disclaimer therefore merits full understanding from a review perspective, which is quoted as follows:

“This document was prepared as an account of work sponsored by the United States Government (1). While this document is believed to contain correct information (2), neither the United States Government nor any agency thereof, nor The Regents of the University of California, nor any of their employees, makes any warranty (3), express or implied, or assumes any legal responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights (4). Reference herein to any specific commercial product, process, or service by its trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof, or The Regents of the University of California. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof, or The Regents of the University of California.”

McCann review comments to the Report disclaimer

Note (1) The U.S. government, as well as many states and counties, are not “officially” neutral on the subject of wind energy development projects. In fact, many policy goals very much rely on the expedited development of the wind energy industry projects, and various acts of legislation, tax incentives, etc., have been instrumental to the demand for development of wind turbine projects.

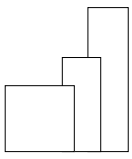
McCann does not suggest that any agency or governmental entity has unduly influenced the authors or their draft conclusions. However, it can potentially be relevant to a user seeking to rely upon the Report, whether or not a report was paid for by a proponent or opponent of the issue purported to be studied. This factor typically is considered by any finder of fact, zoning board or governmental authority when “weighing” the reliability of the opinion(s) expressed in a report or testimony based on such a report.

Note (1) of the disclaimer should not be glossed over by any potential user of the Report, or misunderstood as an entirely academic work product. It is in fact funded by a proponent of the wind energy industry.

Note (2) The Report cites the sources of data analyzed by the authors. However, the raw data is not contained in the report in such a manner to enable a full peer review, or test the results via analysis of the same data.

It has been explained to McCann that confidentiality agreements, etc., prohibit the sharing of the base data, which is accepted at face value by McCann. However, Assessor offices and the data provided by such agencies are not subject to cross examination and discovery of any errors in the base data. McCann has personally found that mass-appraisal (Assessor) offices often have incorrect factual information in their records, which is part of the reason that every state has an appeal process; not only to appeal the value opinions of such agencies, but to correct factual errors.

The Report disclaimer is appropriate as it puts potential users on notice that the authors have not verified the factual accuracy of the data upon which their conclusions are based. This is



relevant in the review process, given the likely reliance on the Report by zoning boards and wind industry developers and proponents.

Based upon experience at the zoning board and litigation levels of the applications for large-scale wind energy projects, McCann is aware that the inability to cross examine the author of an expert opinion can result in the opinion being inadmissible and, similarly, unverified bases for said opinions raises the potential question of reliability of the conclusion(s).

Note (3) of the disclaimer also discloses that the parties and governmental authorities involved in preparing or funding the Report provide any warranty or accept legal responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process. Again, the reliance of any party on the Report is limited, and even the regression methodology (process) is not claimed to be fully reliable.

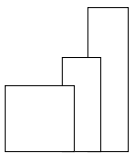
Note (4) Perhaps most important in the disclaimer, note 4 recognizes an implicit risk to private property rights via use of the Report by other parties. It is exactly these rights and the value attendant to those rights that zoning laws are intended to protect, (*as well as the public safety, health and welfare*) It is in the context of this review with McCann's acknowledgement of the probable users of the Report that the disclaimer and emphasized notes should be understood.

Review opinion

McCann has read the Report disclaimer and considers it to be an important element of the Report. The authors have clearly disclosed the limitations of factors potentially affecting reliability and, taken at face value, there is nothing misleading to any user of party reading the Report. However, in practice, the reviewer notes that such disclaimers are often ignored or misunderstood to be "canned" anti-liability language.

Given the tendency and/or potential for zoning boards to skip ahead to the conclusions of any report without careful consideration or full understanding of the limitations on its reliable use, McCann recommends that the Report authors consider including reference to the prudent consideration by any zoning authority to require a Property Value Guarantee (PVG), as part of the conditioned approval of any large-scale wind energy zoning project application. There is no standardized PVG available, but important elements would include homeowner option to sell their property to the developer at an appraised value that assumes no turbines are present, in the event traditional marketing efforts are unsuccessful; payment for diminution of value in zones nearest the perimeter of any project; and use of current home prices as comparables, at the time any claim for compensation was made (to eliminate the effect of "normal" fluctuations of the market). This type of PVG can be fairly, objectively and successfully implemented by a well run energy company and/or the political jurisdiction of the project locations. A PVG would alleviate concern over the very issue acknowledged and studied by the authors of the report and observed first hand by McCann.

Finally, in the event that the author's conclusions prove out to be not universally reliable, correct or generally applicable to every residential property location near wind energy projects, the intent of local zoning laws would not be defeated as it relates to compatibility and property values being protected, when a new dominant land use is introduced to an established residential locale.



As McCann has testified numerous times, home ownership is the single largest investment for most Americans throughout their lifetime, and it is deserving of protection under circumstances where legitimate risk from such a profit-driven use exists. A PVG would not place the burden on homeowners of sacrificing long-built equity to accomplish energy policy goals for the “public good”, and if there is no impact on home prices or marketability resulting from development of wind energy projects, then the only burden on the developers/owners of such projects would be a comparatively nominal administrative expense of funding the PVG process.

Review Opinions regarding Report content and Methodology

McCann has not “checked the math”, or otherwise verified that the statistical indications of the Report for accuracy. Further, the base data for residential property sales was not available in the Report, as stated previously, and thus no alternate methodology could be employed by McCann to cross-check the conclusions of the authors. The review is therefore limited by these restrictions, and the reviewer can not state with authority that the conclusions are accurate with respect to the supporting data. On balance, McCann can not state that the conclusions reached by the authors are inaccurate for the majority of the sales studied in the zones up to 10-miles from the project locations.

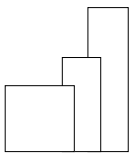
McCann acknowledges that regression analysis has been largely accepted as an “objective” methodology for isolating the value (or devaluation) of property by consideration of the differences or, in this case, perceived disamenity of wind farm proximity to residential property. McCann is also aware that if any of the multiple input data or assumptions in a regression model are even slightly faulty or defective, the statistical indications that result can be significantly impacted. In fact, the authors fairly disclose that ***the primary goal of subsequent research should be to concentrate on those homes located closest to wind facilities, where the least data are available.***

McCann has read the draft Report as well as the prior study prepared by Mr. Ben Hoen. Notwithstanding an assumed objective methodology as well as analyst, what seems most apparent is the lack of transactions of residential property in the areas most heavily dominated by the turbine projects. When graphic representation of sale locations is provided, however, it becomes possible to see the “hole in the doughnut”.

In other words, the absence of data in the most proximate locations is evidence, in and of itself, that the wind turbine projects are thwarting the successful marketing of residential properties in numerous locations. The regression analysis employed in the Report is not capable of discerning this observation, and is not considered to be reliable by McCann for those properties nearest the project locations.

Although the Report acknowledges that it would be useful to study marketing times of homes in the project locations, it does not cite the lengthy and on-going marketing attempts of the most severely affected homes. This is a shortcoming in the Report, as it now is reviewed in draft form.

Similarly, accepted and standard real estate appraisal forms and methodology would allow the authors to reasonably project the impact on market prices and values as the inventory of unsold homes expands with every new project constructed. A marketing time addendum required for



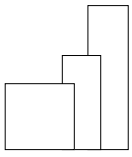
virtually all residential appraisals now provides the format and analytical framework for adjusting the price to allow for a typical marketing time, which may well vary from location to location even without any impact from wind energy projects. This methodology has been used for many years in relocation appraisals, where the guarantor (Relocation Company) limits their holding time to a typical marketing time, with a discounting process employed when marketing times exceed that base assumption.

As thoroughly acknowledged by the authors of the Report, proximity to an amenity or a nuisance can and does have significant effect on the value of residential property. Sale prices for property in zones up to 10 miles distant from a wind farm project are not considered to be a reliable basis for concluding a lack of impact on the most proximate properties, particularly those located in the “footprint” of a project. As those homes can be effectively surrounded by a large-scale industrial “overlay” with in some cases hundreds of 400-foot tall wind turbines becoming the dominant land use, it is exactly those (sales of) homes which would best reveal the greatest measurable impact of the projects.

The Report also concludes that *“Although this work builds on the existing literature in a number of respects, there remain a number of areas for further research. The primary goal of subsequent research should be to concentrate on those homes located closest to wind facilities, where the least data are available. Moreover, much of the data collection for this report was concluded in 2006, leaving the possibility of another round of analysis in the same study areas using more current data, and expanding the number of study areas, both of which would increase the overall sample size, and specifically the number of sales transactions for homes that are particularly close to wind facilities. A more detailed analysis of sales volume impacts would also be possible, as would be an assessment of the potential impact of wind facilities on the amount of time homes are on the market in advance of final sale. Finally, it would be useful to conduct a survey of those homeowners living close to existing wind facilities, especially those residents who have bought homes in proximity to wind facilities after facility construction.”*

McCann suggests that any further study would be well served by looking at the raw data for simple, market-accepted statistical indications. For methodology to be appropriate from an appraisal review perspective, it should “mirror” the market for the property type appraised (or studied) For example, data utilized by both McCann & Poletti derived from the Mendota Hills project, located in Lee County Illinois, included over 40 sales. The sale price per square foot of residential living area was discernibly different for those homes nearest the wind farm, with an average price about 20% lower than the unit price of the more distant homes. Square footage of homes is a widely accepted basis to measure the value of homes. And with all due respect, this important element is lost in the regression analysis as just another category to isolate, and the Mendota impact is similarly obscured.

Although the sample size is smaller for the Mendota Hills locale than the multiple locations cited in the Report, McCann believes that quality of data is more meaningful to the question at hand than quantity. The REPP report cites many thousands of sales and yet the report is meaningless to the question of property value impacts, yet it is often misunderstood as a reliable authority on this topic. McCann recognizes, in contrast, that the authors of the reviewed Hoen (et al) Report made a thorough an apparently time intensive attempt to carefully acknowledge and measure differences in views, distance, quality of homes, etc. In that regard, McCann believes that the author’s integrity is beyond question.



McCann Appraisal, LLC

McCann recommends that the authors emphasize the limitations of reliability, as contained in the Report disclaimer, as well as the absence of data in the most heavily impacted project locations. Perhaps coupling the regression methodology with more traditional, market-based methods of analysis will result in a Report that is generally applicable to virtually any proposed project.

Given the likely dissemination, use and reliance on the Report by governmental authorities, and with the impact on the "public" being best isolated to those living nearest such projects, a clearly emphasized focus on the nearest homes must be included for the Report to be considered reliable, from an appraisal review perspective.

Thank you for the opportunity to provide my input and comments on your draft Report, prior to its publication. I trust my comments are meaningful to you, and I remain available to discuss your Report and my review, if you decide it will be helpful to do so.

Respectfully submitted,

McCANN APPRAISAL, LLC

Michael S. McCann, CRA
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