Wind Facility Effects On Nearby Property Values: The Emerging “Valley” Landscape

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Proximity to and Views of Environmental (Dis)Amenities Can Impact Property Values

<table>
<thead>
<tr>
<th>Highway</th>
<th>Transmission Lines</th>
<th>Average Home</th>
<th>Green Space</th>
<th>Ocean Front</th>
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<tbody>
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There is evidence that a “valley” exists between the pre-announcement and post-construction periods.

Wolsink found levels of support returned to neutral levels after operation. Palmer found levels of support increased after construction.

LBNL 2009 Study

Summary
- 7500 sales, 9 states, 24 facilities
- 125 sales post-construction w/in 1 mile
- 98 sales pre-construction w/in 1 mile
- Multiple models, various effects tested

Conclusions
- Lack of consistent evidence of post-construction effects based on distance from or view of turbines in all models
- Results indicate effects, if they do exist, are likely to be fairly small and/or sporadic
Homes Nearest the Turbines Were Depressed in Value Before Construction and Appreciated the Most After Construction as Compared to Homes Further Away

Price Changes Over Time

Average percentage difference in sales prices as compared to reference category

Average Percentage Differences

More Than 2 Years Before Announcement
Less Than 2 Years Before Announcement
After Announcement Before Construction
Less Than 2 Years After Construction
Between 2 and 4 Years After Construction
More Than 4 Years After Construction

The reference category consists of transactions of homes situated more than five miles from where the nearest turbine would eventually be located and that occurred more than two years before announcement of the facility.
Hoen et al. (2011)
Journal of Real Estate Research paper that built on LBNL Report

Summary
• Same data as LBNL report, but additional analysis (different models)

Conclusions
• Similar lack of evidence of post construction effects based on distance from or view of turbines as in LBNL report
• Some evidence post-announcement pre-construction effects exist that fade after turbines are in operation
Some Evidence that Prices Are Affected in the Post Announcement Pre Construction Period and then Return to More Normal Levels Following Construction

Price Changes Over Time

Average percentage difference in sales prices as compared to reference category

The reference category consists of transactions of homes situated more than five miles from where the nearest turbine would eventually be located and that occurred more than two years before announcement of the facility.
Summary

- 2,910 rural-residential transactions
- 2 Development periods tested:
  - pre-announcement
  - post-announcement
- Multiple models, development period effects tested

Conclusions

- Lack of evidence of post-announcement effects exist
Summary

- 3,851 residential transactions
- 3 Development periods tested:
  - pre-announcement
  - post-announcement yet pre-operation
  - post-operation
- Multiple models, distance and development period effects tested

Conclusions

- Strong evidence that post-announcement pre-operation effects exist
- Effects range from -6% to -12%
- Lack of evidence of post-operation effects exist
Summary

- 11,331 residential transactions
- 1 development periods tested:
  - post-announcement
- Multiple models, distance effects tested

Conclusions

- Some evidence that post-announcement yet pre-operation effects exist
- Effects can range from -6% to -16%
- Lack of evidence of post-operation effects exist
**Summary**

- 11,331 residential transactions
- 1 development periods tested:
  - post-announcement
- Multiple models, distance effects tested

**Conclusions**

- Some evidence that post-announcement yet pre-operation effects exist
- Effects can range from -6% to -16%
- Lack of evidence of post-operation effects exist
Carter (2011)
Lee County, IL

Summary
• 1,298 residential transactions
• 2 development periods tested:
  – pre-construction
  – post-construction
• Multiple difference-in-difference models tested

Conclusion
• Lack of evidence of post-operation adverse effects
Conclusion
A “Valley” Does Seem To Exist

- Support for wind facilities is lowest after announcement but prior to construction and then returns to more normal levels after operation.
- Analogously, risks of property value impacts are highest when they cannot be accurately quantified in the period prior to construction/operation.
- Adverse sales price impacts are evident in the period after announcement but prior to construction in some studies.
- There is evidence that both support for and sales prices near turbines improve to more neutral levels after the facility begins operation.
- And more to the point, conclusive evidence of persistent post-construction effects from wind facilities have not been discovered despite a number of studies using a variety of sophisticated statistical techniques.
There Are Gaps in the Literature

Proposed Future Work

• Correlates to “Valley” Effect: Development process, transparency, local involvement, etc.
• Are all impacts being priced into homes? i.e., Is the noise worse than expected for buyers?
• Effects very near turbines (e.g., within ½ mile)
• Influences of negative or positive press on home values, i.e. press as a driver to selling prices
Thank You!

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References


