
The Impact of Wind Facilities on Residential Property Values

What We Know And What We Don't Know

Ben Hoen & Ryan Wiser

Lawrence Berkeley National Laboratory

benhoen2@earthlink.net, rhwiser@lbl.gov

Mid-Atlantic/Southeast RWEI Annual Meeting

Alexandria, VA

November 14, 2008

The Impact of Wind Facilities on Residential Property Values

- Subject & LBNL Study Methods Overview
- Study Results
 - Area Stigma
 - Scenic Vista Stigma
 - Nuisance Effects
- Conclusions

Proximity, Aesthetics & Property Values Are Strongly Linked



This linkage is well studied

Property Value Concerns For Wind Projects Fall Into Three Possible Categories

1. Area Stigma: Concerns over “industrialization” of area

No one will
move here!

2. Scenic Vista Stigma: Concerns over decrease in quality of scenic vistas from homes

It will ruin my
view!

3. Nuisance Effects: Potential health/well-being concerns of nearby residents

I won't be able to
live in my home!

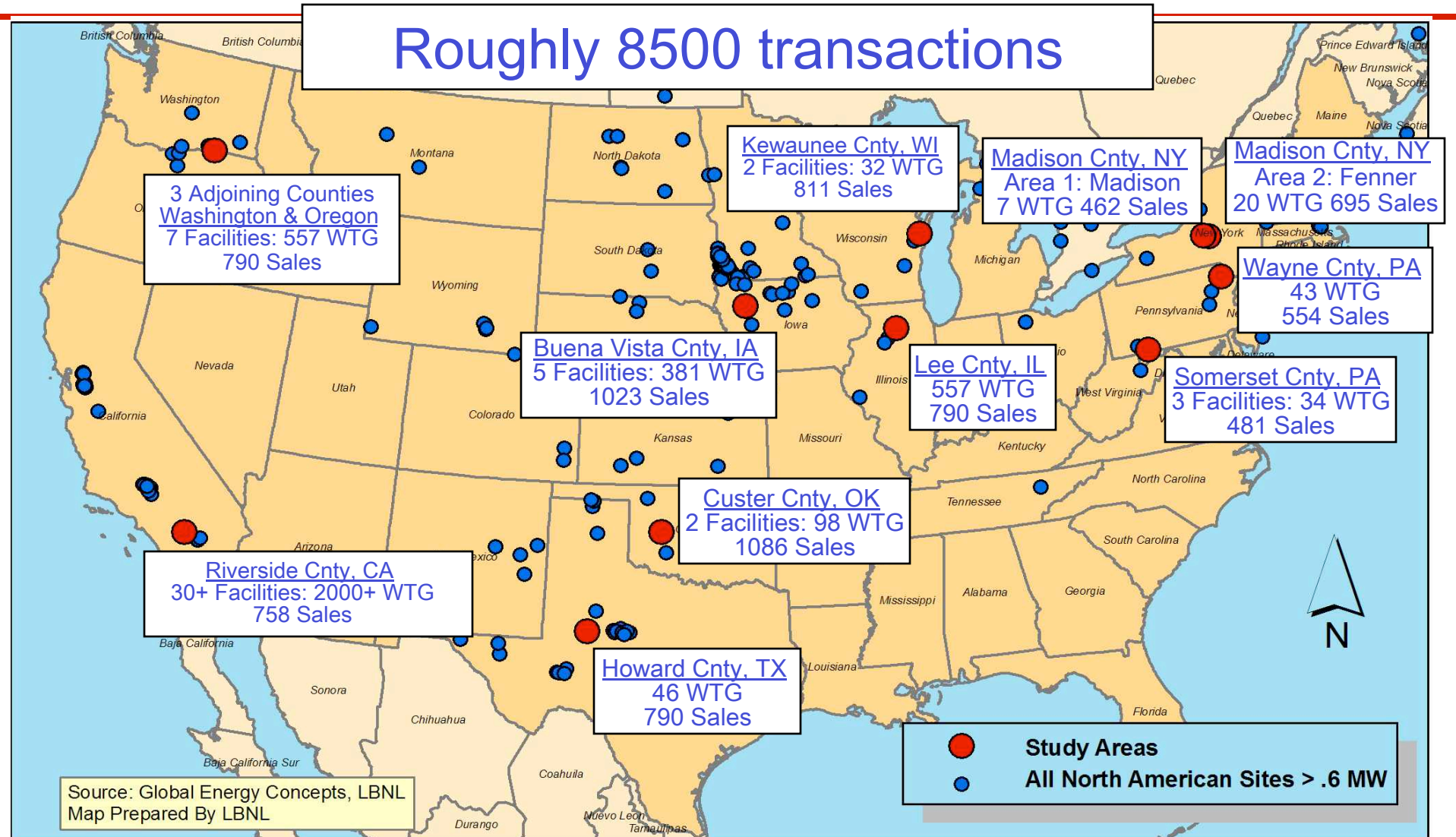
Each of these effects could impact property values

LBNL Study Methods

Build And Improve On Past Work

- Multiple U.S. wind project locations
- Sample sizes of over 450 for each area
- Valid residential sales values (not assessed values)
- Field visits to each home
- Hedonic pricing model
- Test for all three potential effects
- Rigorously analyze data & peer review results

Data Collected From 11 Study Areas Surrounding More Than 25 Wind Facilities



The Impact of Wind Facilities on Residential Property Values

- Subject & LBNL Study Methods Overview
- Study Results
 - Area Stigma
 - Scenic Vista Stigma
 - Nuisance Effects
- Conclusions

Preliminary Results Based On Data From 10 Of The 11 Areas* and Initial Analysis

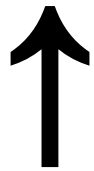
NOTE OF CAUTION:

The following graphs and findings are preliminary, so conclusions based on these results should be considered preliminary as well

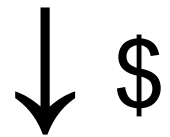
* Data from Riverside County, CA area not included in these results

To Test For Scenic Vista Stigma, Scenic Vista Itself Needs To Be Controlled For

They might pull in two directions



Without separating out scenic vista,
measurements of the effects of the view
of wind turbines might be artificially inflated



Five Qualitative Rankings For Scenic Vista

Each home was given a scenic vista rating



Poor



Average

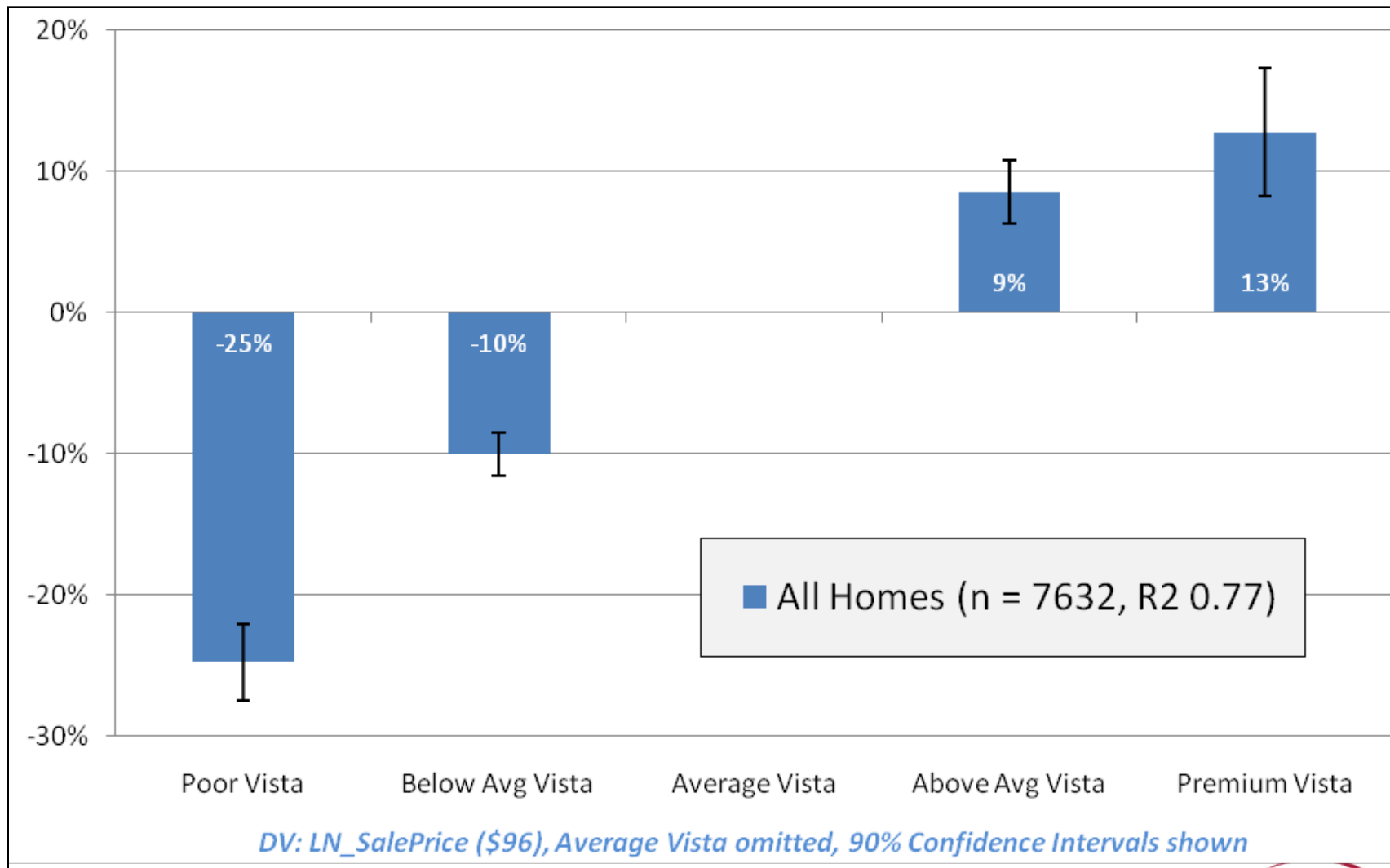


Premium

Below
Average

Above
Average

Buyers & Sellers Care About Scenic Vista



Four Qualitative Ratings For Dominance Of View

Each home was given a view of turbines dominance rating



Minor



Moderate

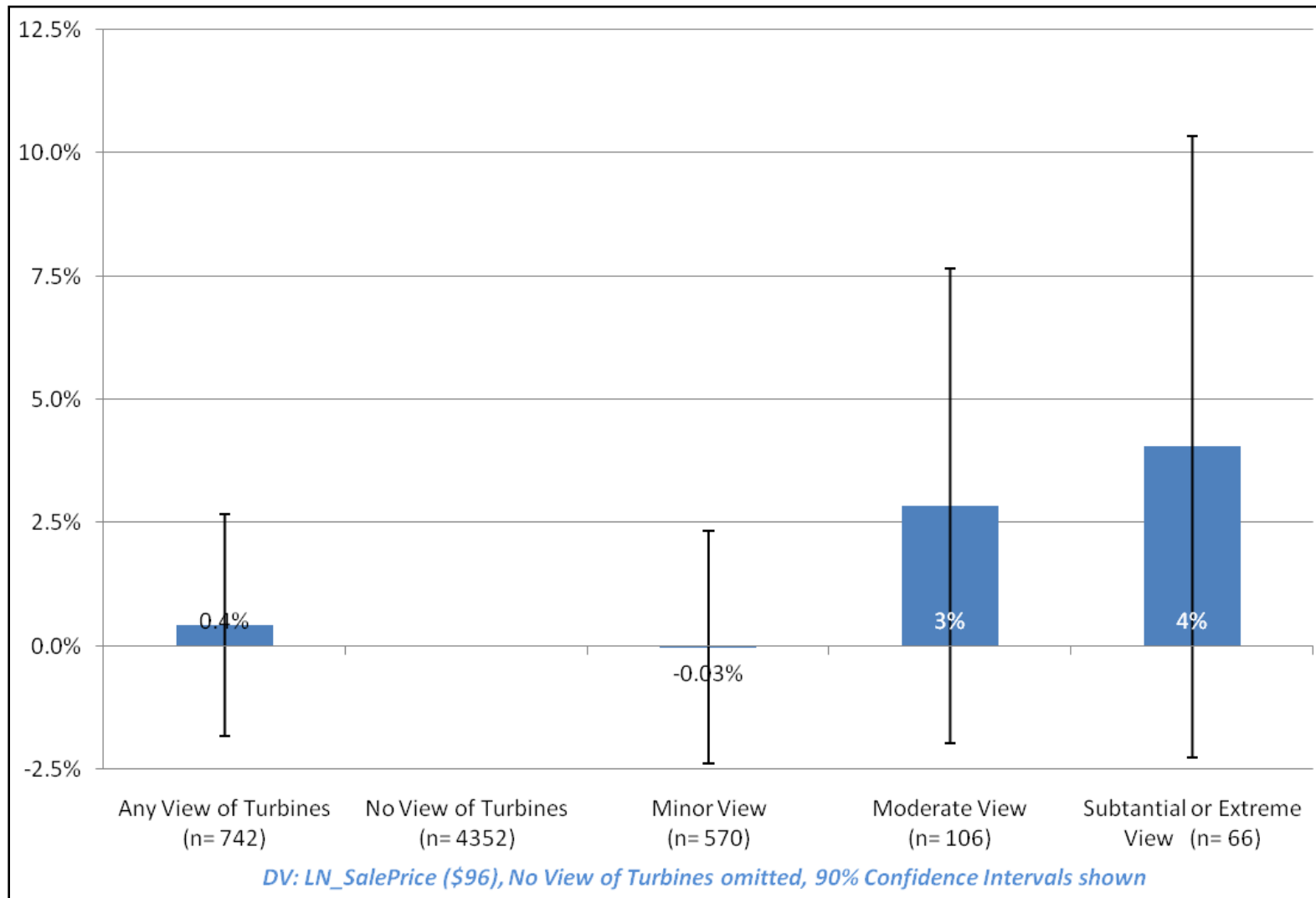


Extreme

Substantial

Scenic Vista Stigma

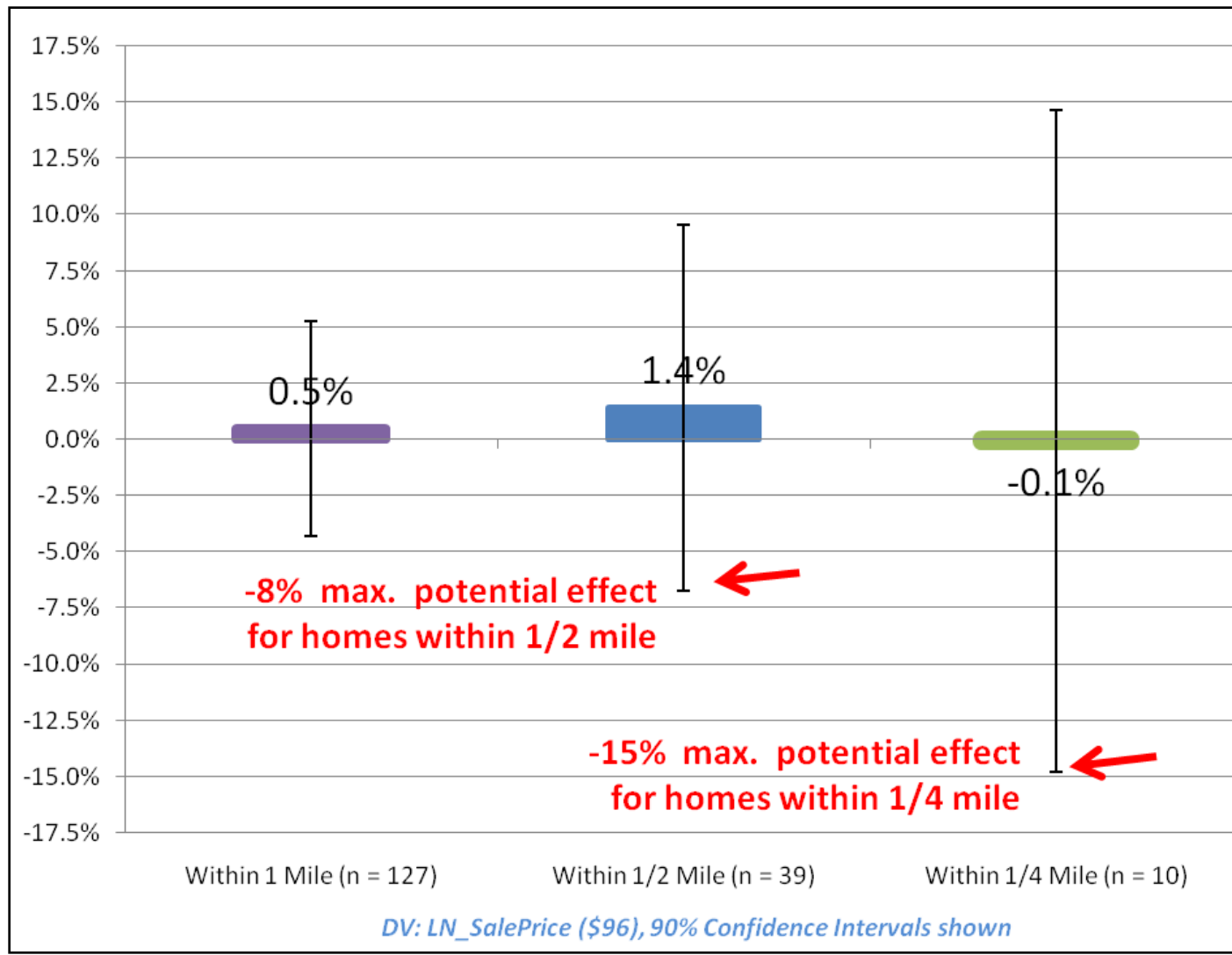
There Is No Statistical Evidence That Views Of Turbines Affect Home Values Using Qualitative Rating Method



The Impact of Wind Facilities on Residential Property Values

- Subject & LBNL Study Methods Overview
- Study Results
 - Area Stigma
 - Scenic Vista Stigma
 - Nuisance Effects
- Conclusions

Nuisance Effects: And Maximum Probable Effects Are Fairly Small



The Impact of Wind Facilities on Residential Property Values

- Subject & LBNL Study Methods Overview
- Study Results
 - Area Stigma
 - Scenic Vista Stigma
 - Nuisance Effects
- **Conclusions**

What Conclusions Can Be Drawn From Study Results?

Given our sample and preliminary analysis...

- **Area Stigma:** We find no statistical evidence that homes near wind facilities are stigmatized by those facilities as compared to other homes in the region.
- **Scenic Vista Stigma:** We find no statistical evidence that homes with a view of wind turbines have different values than homes without such views.
- **Nuisance:** We find no statistical evidence that homes within $\frac{1}{4}$, $\frac{1}{2}$ and 1 mile of turbines sell for different values than those further away.

Bottom line: Though one cannot rule out isolated cases where property values are negatively impacted, any such impacts within our sample are not widespread nor statistically identifiable.

More Detailed Results Expected In Final Report & Paper Due Out Early 2009

**We hope to investigate the following types of homes for
unique effects**

- Homes in the top 25% of market value
- Secondary (vacation) residences

And further refine our analysis

- Control for spatial autocorrelation
- Investigate how time might affect results

Thank You



Ben Hoen & Ryan Wiser
Lawrence Berkeley National Laboratory
benhoen2@earthlink.net & rhwiser@lbl.gov