Land-based Wind

Property Values are Not Affected by Land-based Wind Turbines

Studies show no evidence of long-term impacts on property values from wind farms in rural areas.

Key Takeaways

1. Numerous studies show that the planning, construction, and operation of utility-scale wind turbine installations have no long-term negative impact on property values.
2. Limited research suggests that the installation of wind turbines can lead to a regional increase in property values, particularly in rural communities.
3. Wind installations can economically benefit communities in numerous ways by bolstering the tax base, providing jobs, and raising per-capita income.

Background

Utility-scale wind energy is the largest source of renewable electricity generation in the United States and is growing continuously. There are over 70,000 wind turbines deployed across the U.S., capable of generating 146 gigawatts of clean, reliable electricity – enough wind power to serve 46 million American homes.

Research Refutes Economic Misconceptions of Wind Turbines

Years of research into the impact of wind turbines on property values have shown no evidence of negative long-term impact of wind installations to property values, including a 2023 study by Eric J. Brunner, Ben Hoen, Joe Rand, and David Schwegman which found no evidence of long-term negative impacts to property values in rural communities.

The only potential for an adverse effect from wind project installation was observed during the temporary construction phase in large "urban" counties, with populations greater than or equal to 250,000. This potential temporary effect only impacted properties within one mile of a wind installation and was limited to the construction phase of the project. Evidence shows that property values begin to return to pre-announcement levels after operation begins.

- Notably, the overwhelming majority of wind energy projects are in rural counties, where evidence emphasizes no negative impacts from installations.
- 88% of installed wind capacity is in counties with populations less than 100,000
- 94% of installed wind capacity is in counties with populations less than 250,000

Additionally, a 2019 analysis of property value research by researchers at the University of California, Davis found that wind turbines do not negatively impact property values at any point during their installation, including post-announcement, during construction, and post-construction.

A 2013 study by the Lawrence Berkeley National Laboratory (LBNL) found no significant impact on the property values of the 50,000 homes researchers analyzed near 67 different wind facilities.

- According to the lead author, Ben Hoen, "This is the second of two major studies we have conducted on this topic [the first was published in 2009], and in both studies [using two different data-sets] we find no statistical evidence that operating wind turbines have had any measurable impact on home sales prices."

Wind Installations Economically Benefit Property Owners

Some American homeowners have the perception that wind turbine installations can reduce property values in an area; however, extensive research indicates this is not the case.

A 2022 peer reviewed study found that beginning with the construction phase, wind energy projects led to economically meaningful increases in median home values, household income, and both county-level income and gross domestic product (GDP) per-capita. The study also suggests that wind energy investments may stimulate and diversify local rural economies at an increasing rate with installed capacity, implying rural communities with multiple installations and a greater amount of wind energy capacity benefit the most.

Wind Installations Create Regional Economic Benefits

The wind energy industry is a true driver of economic development, particularly in rural areas. Wind energy diversifies income sources on local landowners' property and increases tax revenues, providing funds for schools, infrastructure and community services. Wind energy projects across the U.S. deliver an estimated $2 billion in state and local tax payments and land-lease payments each year. The industry employs nearly 126,000 Americans across all 50 states, including 24,000 wind manufacturing jobs at over 450 facilities.

Studies Find No Detrimental Impact on Property Values

- **Rural Appraisals:** on behalf of a nearby Chamber of Commerce to investigate the impact of wind power projects on rural property value appraisals from 2002 to 2019.
  - The study found **no statistically significant impact on property values post-construction** in rural Kansas.
- **Agricultural Land Values:** Several studies explored the impacts of wind energy on agricultural land values.
  - Two studies (Sampson et al. 2020 and Schultz et al. 2019) concluded that Pennsylvania and Kansas **property values are not impacted by turbine installation**.
  - A third found evidence of **an *increase* in the value of agricultural land in proximity to wind turbines**. The researchers also found that lands that host wind turbines had a higher property value increase. Myrna et al. found that higher cumulative capacity of wind turbines in an area is associated with higher farmland transaction prices, with an approximately 0.004% increase in farmland sale prices for each 1% increase in wind turbine capacity.
- **Attitudes Matter:** An Ontario-based study by Richard Vyn highlighted the importance of local attitudes toward wind energy in shaping residential property values. Vyn compared communities that had expressed opposition to wind (through a municipal declaration against wind) with unopposed communities. He found that the impact wind turbines have on property values may be influenced by local attitudes toward wind energy development. The more negative the attitude towards wind energy projects, the greater the potential for a negative effect on property values.
  - However, a study of attitudes towards wind turbine neighbors conducted by LBNL found that **92 percent of people living within five miles of a wind turbine reported positive or neutral experiences**.
- **Platted vs. Unplatted:** Researchers at the University of Oklahoma conducted an analysis of 23,000 residential real estate records in 5 counties in Western Oklahoma, exploring the sale price of platted and unplatted properties before announcement, after announcement, and after turbine construction. They found that there is no significant decrease in property values for homes or unplatted property near wind farms.
  - Among plots of unplatted land between 0.5 – 1 mile away from turbines, the median sale price *increased*, both after announcement and after construction.

In Some Instances, Wind Installations Showed an Increase Property Values

The 2022 analysis by Eric J. Brunner and David J. Schwegman found that home values increase on a county-wide basis after a wind energy project has begun operating. The authors found this increase in home values to be driven primarily by the impact of wind energy in rural counties, most notably in rural counties with a significant amount of installed wind energy generating capacity.

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