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Abstract Title: Valuing NIMBY concerns about wind farms in the Midwest

Abstract Text:

Like all large industrial projects, wind farms face public perception challenges; especially those close to households. Past research showed that wind opposition stems from concerns about environmental impacts, perceived economic costs, fear of health impacts, and how all these concerns relate to NIMBY (Not-In-My-Back-Yard) preferences. However, no paper to date has tried to measure the willingness-to-pay (WTP) for households to move potential onshore wind projects to locations farther away, thus assigning a dollar value to NIMBY preferences. In this paper, we develop a discrete choice survey to estimate the utility function (mixed logit regression) of household preferences for onshore wind farm siting decisions. In our survey, we include distance from wind farms to households (using maps of wind farms as visual aids), change in monthly energy bill, health concerns, and environmental impacts. We then use the utility function to estimate WTP for each attribute in the model. We sample from communities in Illinois, which currently has 3.5 GW of wind capacity and requires another 7.5 GW to comply with the state's renewable portfolio standard. Preliminary results suggest that WTP to move wind farms is high enough to pay for the additional transmission costs of building wind farms in states farther west of Illinois (Iowa, Minnesota, and South Dakota), which have lower population densities and better wind resources. We conclude that appropriate public policy could incentivize project developers to site wind farms in remote locations, and could allocate the increased transmission costs using household WTP across Illinois.