

SUMMARY SURVEY RESULTS

Views of Wind Development from Michigan's Windfarm Communities

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In June 2016, landowners in ten Michigan townships with utility-scale windfarms were mailed a survey about their experiences with wind energy. These townships collectively host over a third of the state's utility-scale wind turbines and represent a wide range of geographies (the Upper Peninsula, Northern Lower Peninsula, and the Thumb), prevailing land uses (farming, recreational, or forest land), and size of windfarm (6 to over 80 turbines). Additionally, these communities represent a wide spectrum of different responses to wind development, from communities that have halted any future wind development to those that have eagerly welcomed additional turbines. The survey sent to these landowners aimed to gauge their attitudes about wind energy in their communities, and then tried to understand what might account for the different experiences so that other communities who are considering wind development can ensure that it respects local community values.

A total of 2,013 landowners—53% of those who were sent the survey—responded. These included owners of primary residences (62%), secondary residences/vacation homes (13%), rental housing units (3%), recreational land (18%), and farmland (33%). (The numbers exceed 100% as some respondents own multiple types of land.) Respondents ranged in age from 19 to over 100 years old, and had owned property in the township for an average of 28 years. Because the survey contacted all landowners in the ten windfarm townships, it included some with turbines on their property, others who may own property miles from the windfarm (for example, on the far side of the township), and some who own land in the township but live elsewhere.

The data for many of the survey questions are on the following pages. Additional analysis and data from related studies is available online at the CLOSUP Wind Project's webpage: www.closup.umich.edu/wind.

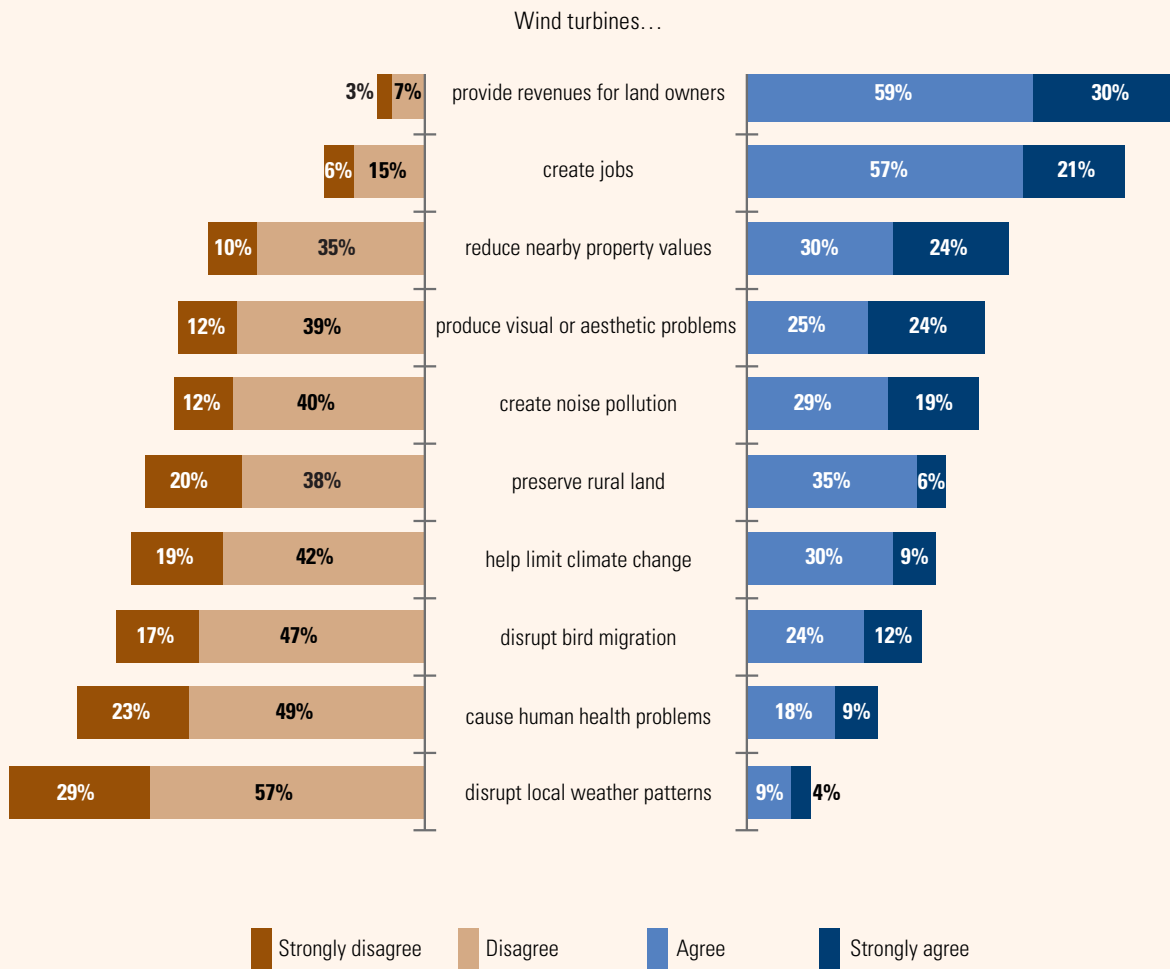
This research was made possible through a grant from the Charles Stewart Mott Foundation. This grant also supports efforts to share this research with landowners and local communities who are interested in getting more information about wind energy, including by providing in-person presentations at local government or community meetings. For more information or to request a presentation for your community, please contact Dr. Sarah Mills at (734) 615-5315 or by email to sbmills@umich.edu.

Perceived Impacts of wind energy

The survey asked about a wide range of potential impacts that are often debated by proponents and opponents of wind energy. There was consensus among landowners in Michigan communities with wind turbines about four issues: that wind turbines provide revenues for land owners (89%), that wind turbines do *not* disrupt local weather patterns (86%), that windfarms create jobs (78%), and that windfarms do *not* cause human health problems (72%).

Opinions are more split, though, on many of the other potential impacts. 64% say that wind turbines do *not* disrupt bird migration, 61% say that turbines do *not* help limit climate change, and 58% believe that turbines do *not* help preserve rural land. Roughly half of the survey’s respondents believe that turbines reduce nearby property values (54%), that turbines do *not* create noise pollution (52%), and that turbines do *not* produce visual or aesthetic problems (51%).

Question: How strongly do you agree or disagree with each statement about wind turbines?



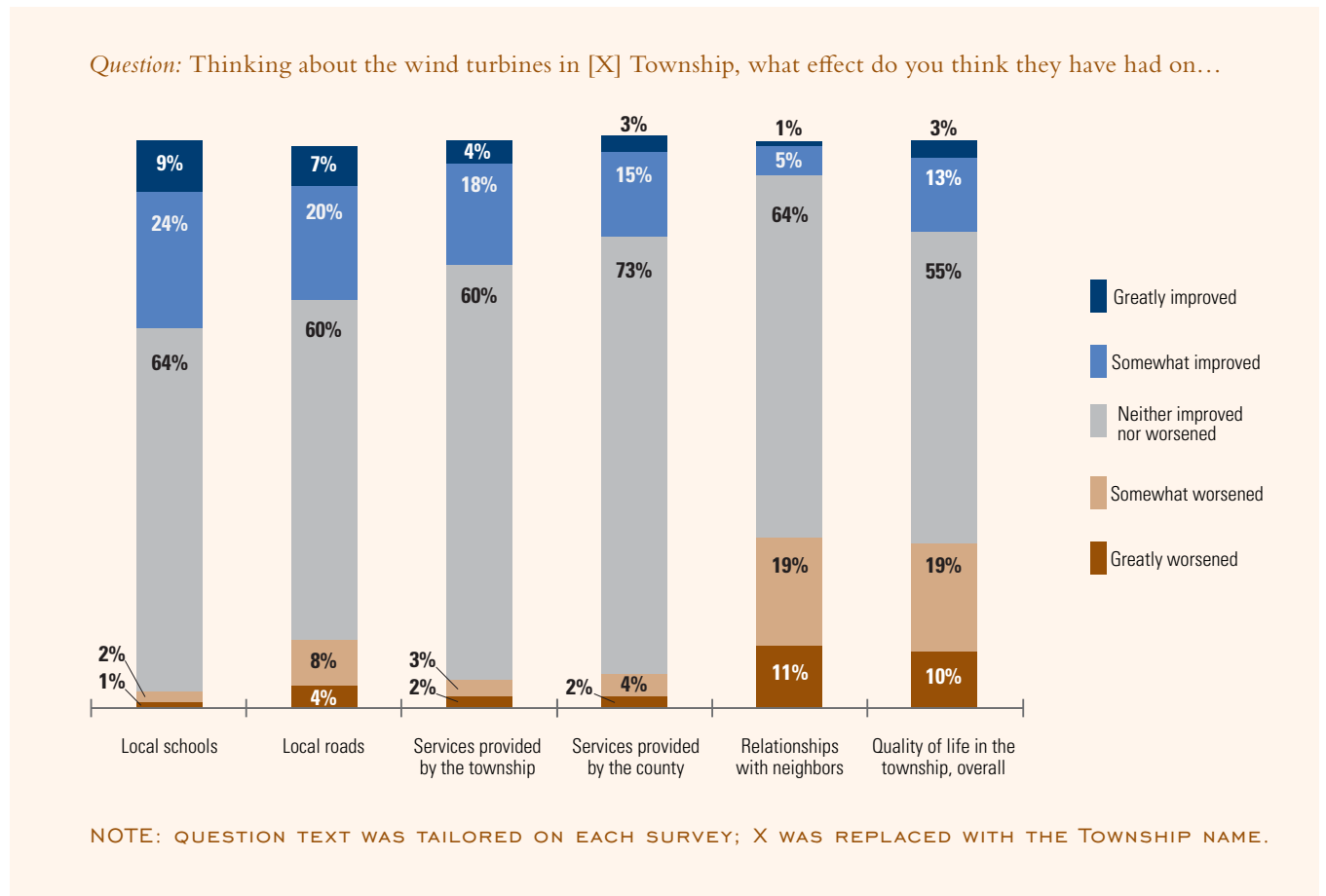
NOTE: RESULTS MAY NOT ADD TO 100% BECAUSE OF ROUNDING.

Impacts on local services, quality of life

One of the key reasons for surveying all landowners in the township is that, regardless of how close they are to the windfarm, there is some chance that every landowner in the township may be indirectly affected by the windfarm. In Michigan, the owners of wind turbines pay local property taxes to support the school district, county, and township governments and the services that they provide, and so one indirect effect could be improvements to local public services. Another possible indirect effect to all township landowners is on local roads: on the one hand, roads may benefit from improvements made possible through larger township or county budgets, but on the other hand may be negatively impacted by additional traffic and wear-and-tear during the construction of the windfarm. Finally, because windfarms are often the talk-of-the-town(ship), they have the potential to introduce conflict between those in favor of and opposed to them. Collectively, this can impact how landowners feel about the quality of life in the township.

Overall, a majority of landowners in townships with windfarms say that the windfarm has neither improved nor worsened the services provided in their community, their relationship with neighbors, or their overall quality of life.

Those who note improvements are most likely to see those improvements to local schools (33%) or local roads (27%). Conversely, those who note deterioration of conditions are most likely to say that the windfarm has worsened relationships with their neighbors (30%). This is largely echoed in their assessment of changes to their overall quality of life as a result of the windfarm—29% note quality of life has worsened, 16% say it has improved, and 55% say it has neither worsened nor improved.



Support or opposition to additional wind development

What about opinions related to future wind development? Most respondents – though not a majority – say they would oppose additional wind development within 1 mile of their property. Specifically, 44% say they would oppose additional turbines within 1 mile of their land while 39% say they would support additional turbines, with the remaining 17% answering they would neither support nor oppose additional wind development.

The picture changes when you ask about siting additional turbines elsewhere in the township or elsewhere in the state. 42% of respondents say they would support additional turbines being sited in their township compared to 35% who say they would oppose this. And nearly half (49%) say they would support additional wind development elsewhere in Michigan compared to just 22% who say they would oppose any new wind development in Michigan.

Factors affecting attitudes about future wind development

In each of the townships that were included in the survey, there were both landowners who said they would strongly support additional local wind development and those that said they would strongly oppose it. A number of factors appear to help explain these attitudes.

Some of these factors are a function of differences in landownership. For example, those that own a secondary residence or vacation home are twice as likely to oppose additional wind development in the township than those who have a primary residence in the township. Those who only own farmland or rental property (i.e., not a residence) are even less likely to say they would oppose a future project.

Other factors related to support for additional wind development are linked to their relationship with the current wind project. Perhaps unsurprisingly, landowners who report being able to hear wind turbines from their property are less supportive of additional wind development in their township than those who say they do not hear turbines. Similarly, those landowners who received a direct payment from a wind energy project (for example, a lease or easement payment, royalty payment, or participation agreement) are less likely to oppose more turbines than those who are not paid. But more money doesn't always equal more support. While landowners who receive at least \$1,000 per year are more supportive of additional wind than those who receive less than \$1,000 per year, there is little difference between those who receive \$1,000-3,000 and those that receive much more.

Still other factors suggest that landowners' attitudes about the windfarm planning process are related to their support for any future wind development. In particular, when a respondent thinks that local government officials made decisions about the wind project that were in the best interest of the township they are more likely to say they would support additional wind development. There is also more support for additional wind development from landowners who believe that community input influenced the outcome of the wind project (for example, the location or number of turbines). Wind developers' actions matter too. Those who believe the wind developer kept promises they made during the planning process, and those that think the wind developer acted openly and transparently during the planning process, were more likely to support future wind development in the township.

