

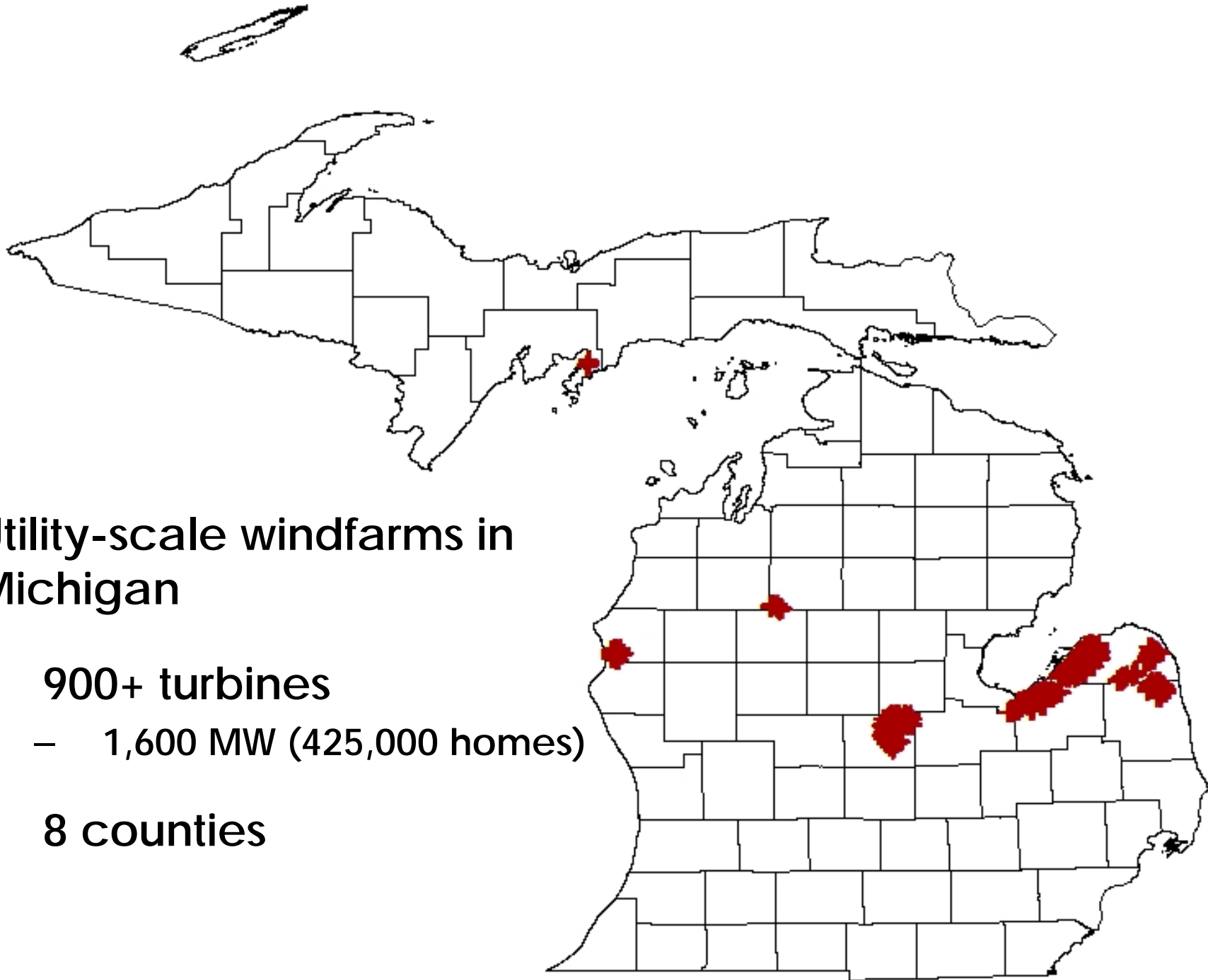
Local Impacts of Michigan's Windfarms

IRWA Michigan Chapter 7 Meeting
May 2, 2017

Sarah Mills, PhD

What I'll cover

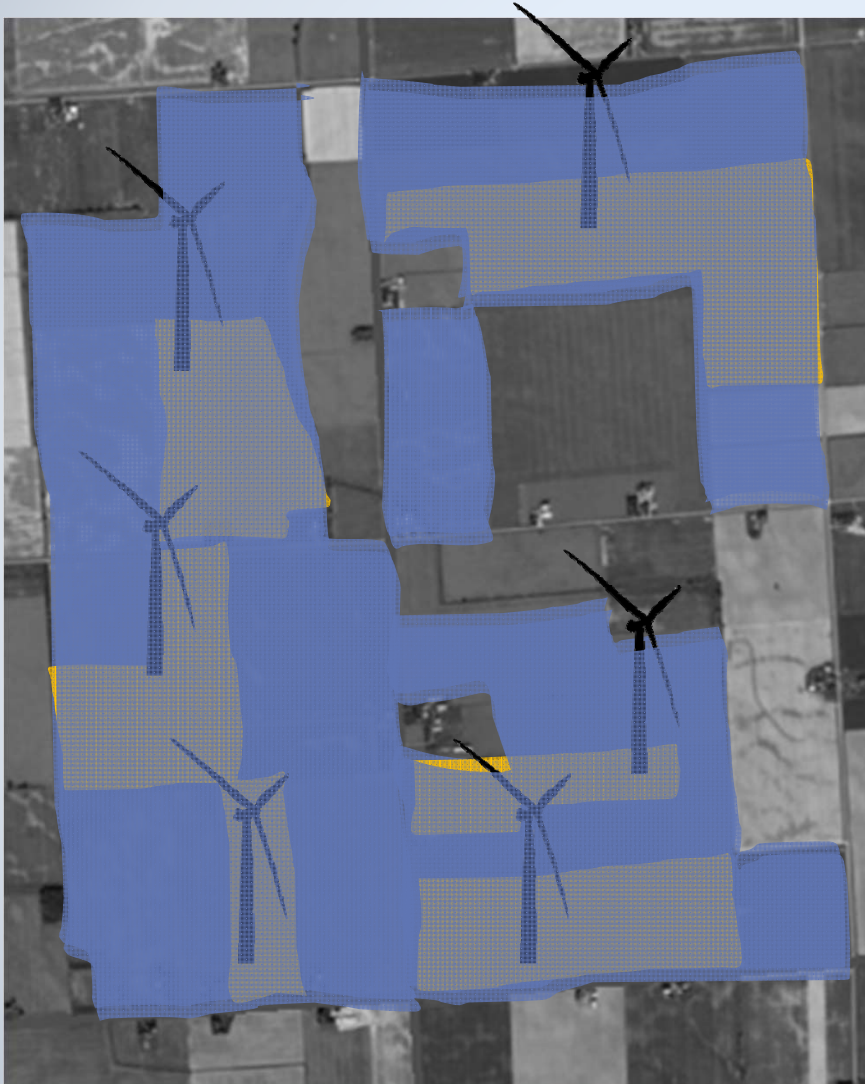
- Surveys of landowners
 - Methodology
 - Individual impacts
 - Community impacts
- My advice
 - To local government officials
 - To wind developers



Utility-scale windfarms in Michigan

- 900+ turbines
 - 1,600 MW (425,000 homes)
- 8 counties

Wind Development 101

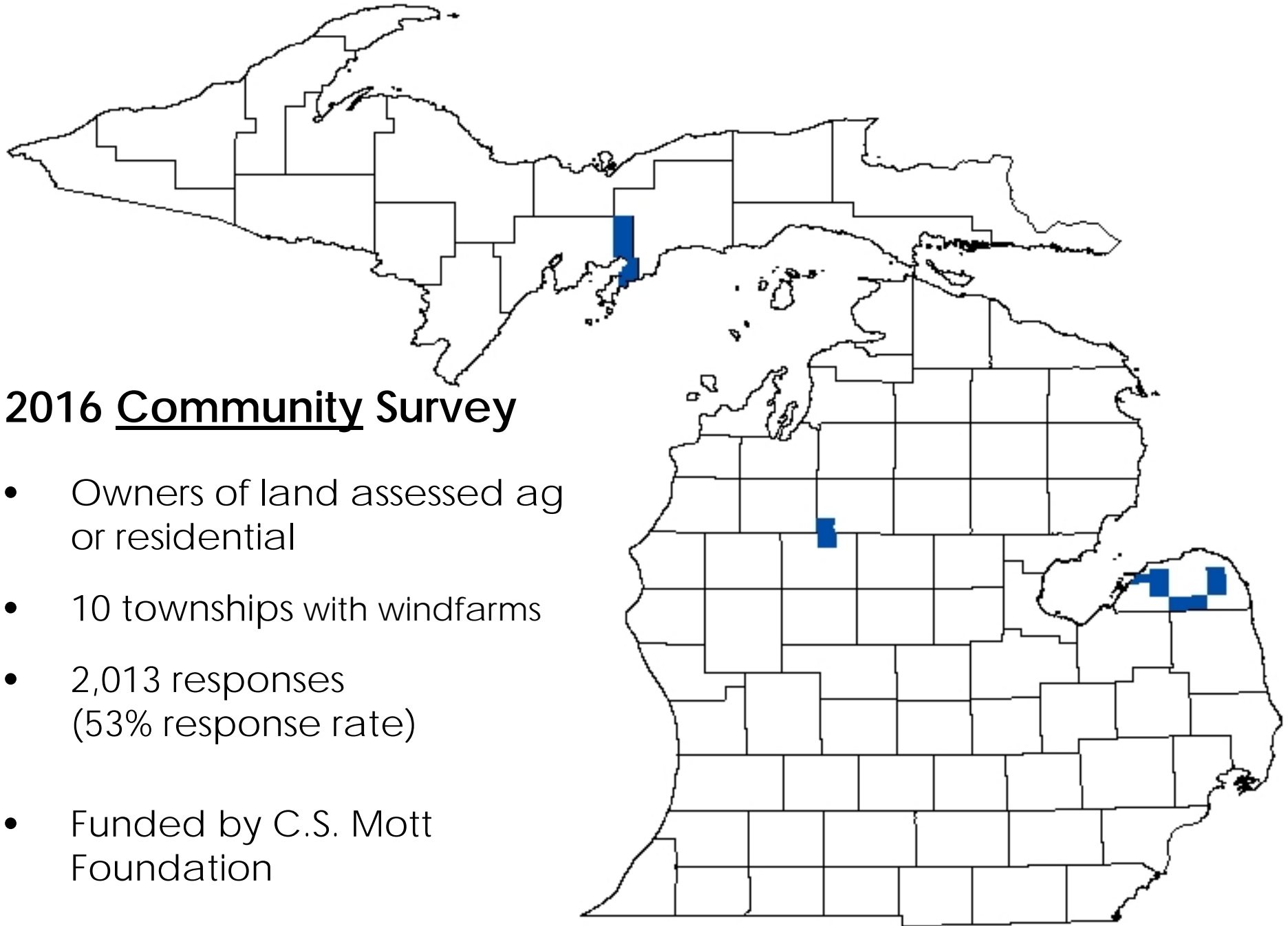


- Zoning constraints
- Landowner payments
 - Disturbance
 - Royalty
 - Participation/friendly neighbor
- Property tax payments
 - ~\$20M per year statewide

Survey Data

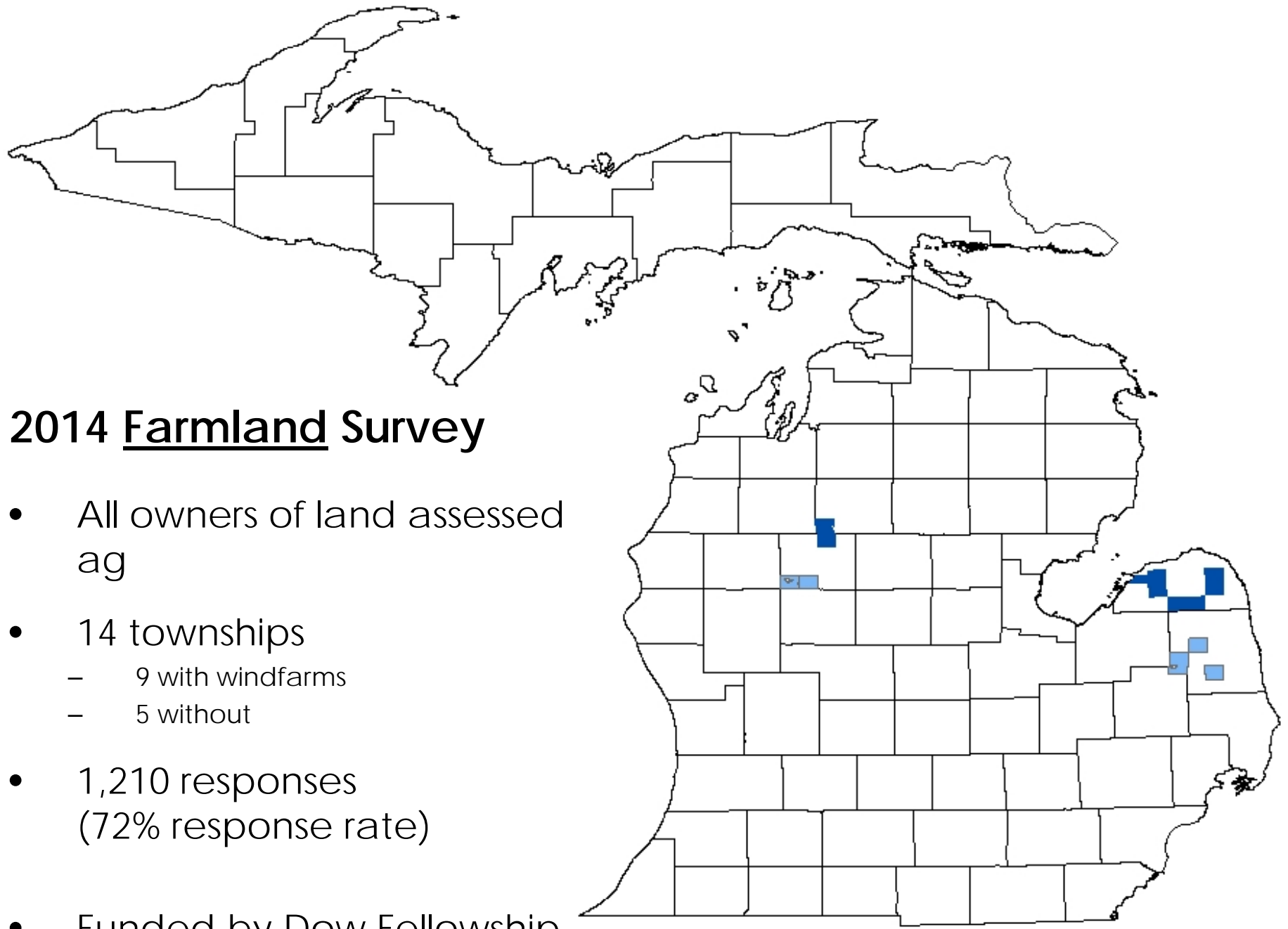
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When, who, and where
& what did I find?



2016 Community Survey

- Owners of land assessed ag or residential
- 10 townships with windfarms
- 2,013 responses (53% response rate)
- Funded by C.S. Mott Foundation



2014 Farmland Survey

- All owners of land assessed ag
- 14 townships
 - 9 with windfarms
 - 5 without
- 1,210 responses (72% response rate)
- Funded by Dow Fellowship

Things to keep in mind

- Not all respondents live in township
 - Even if they do, some live far from turbines
- Results not weighted; more populous townships more represented
- Margin of error: $\pm 1.5\%$

Overall drivers of attitudes

- Type of land owned
 - secondary vs. primary residence
 - farmland /rental property *only*
- Being within earshot of turbines
- Direct compensation
 - Some better than none
 - \$1,000 per year as key threshold

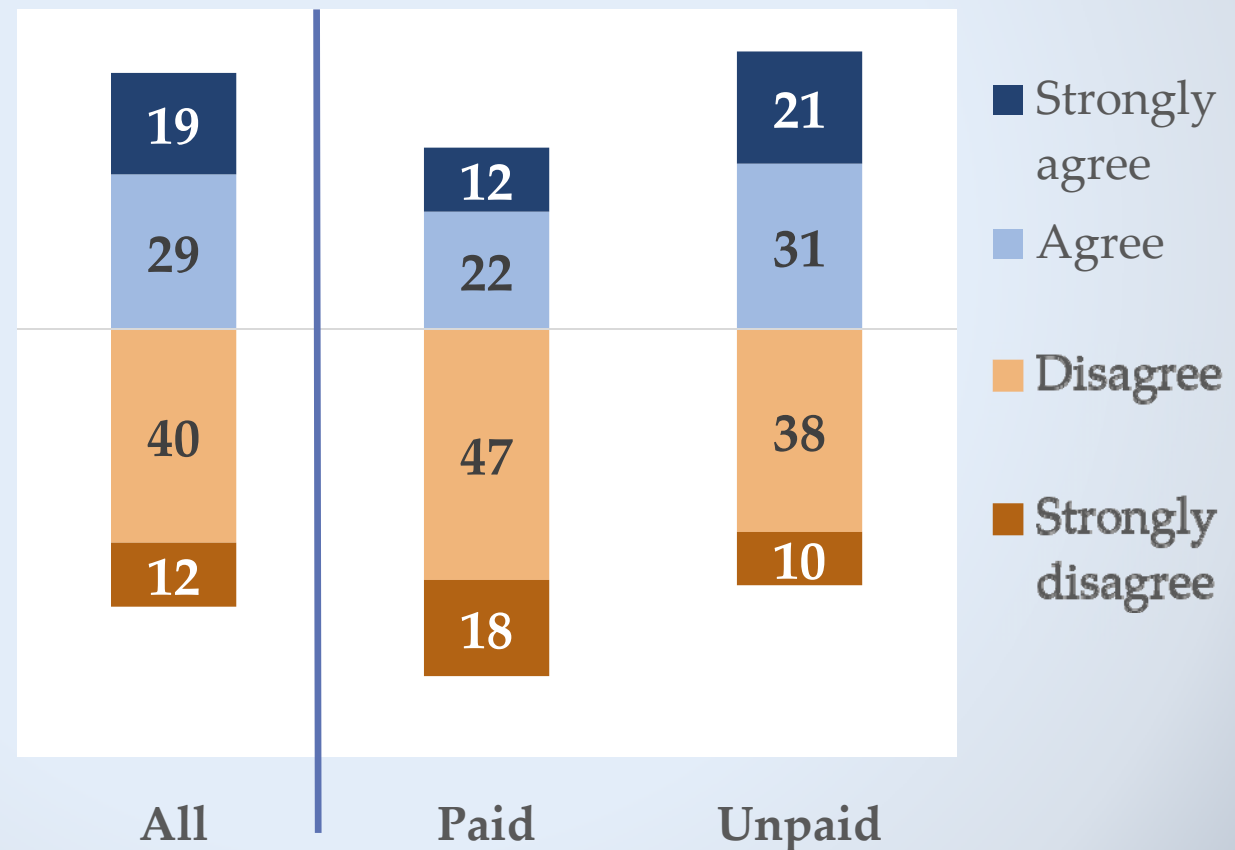
Individual-level Impacts

- Noise
- Visual
- Health
- Property value
- Farm income
- Farm succession

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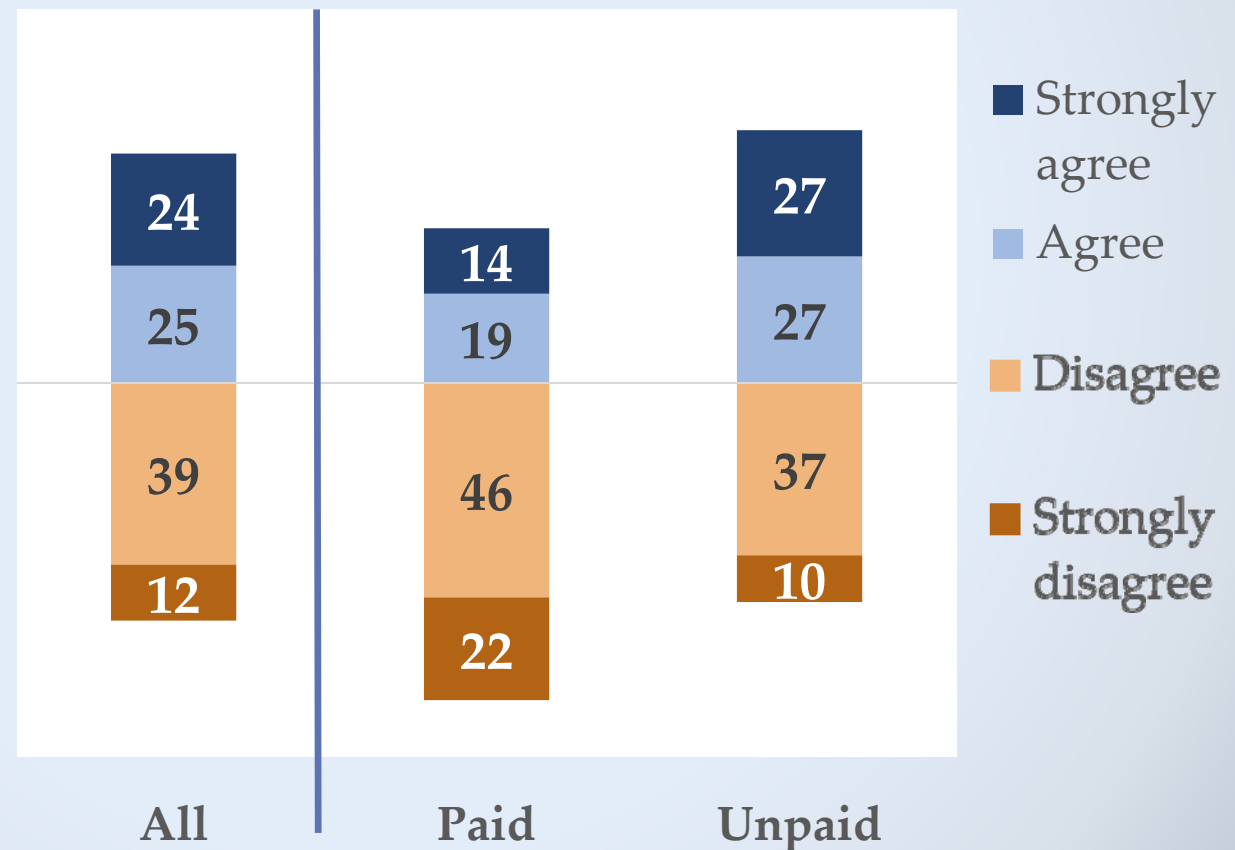
Turbines create noise pollution



Individual-level Impacts

- Noise
- **Visual**
- Health
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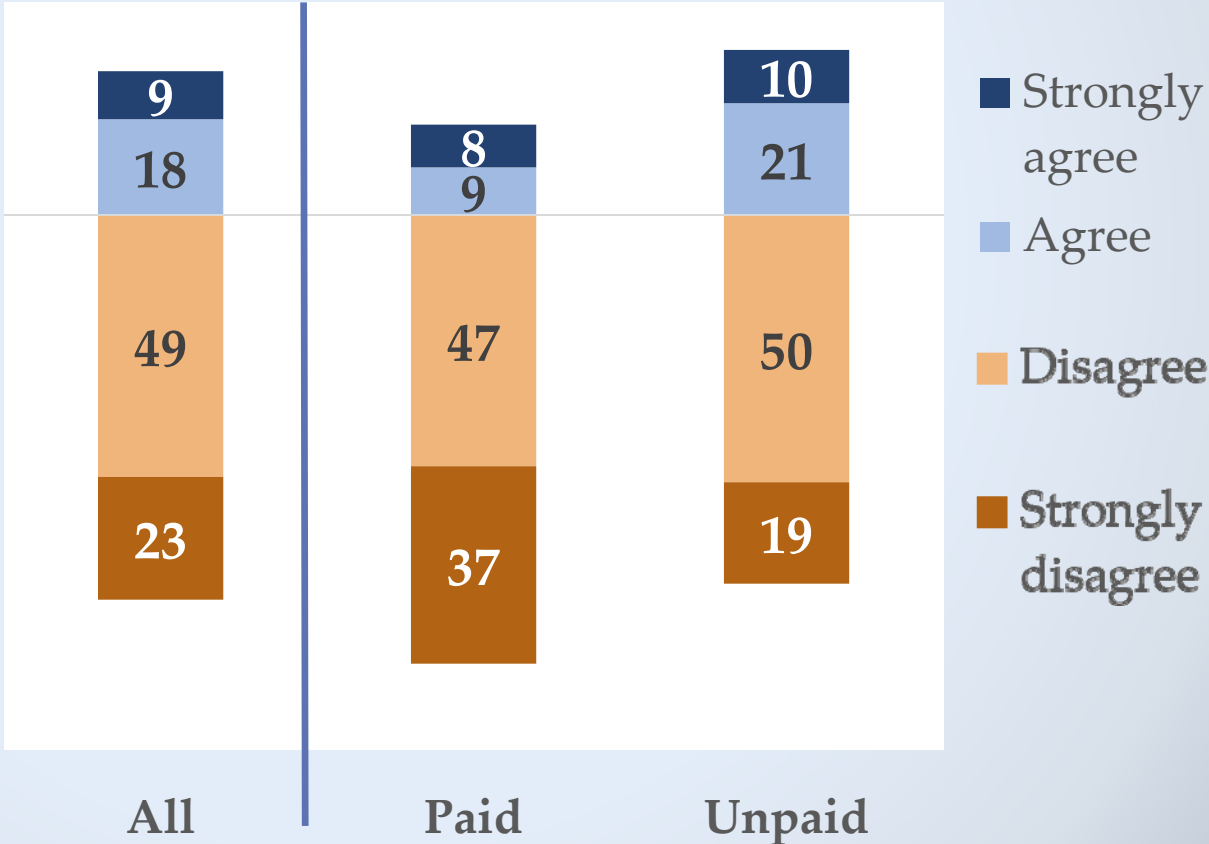
Turbines create visual/aesthetic problems



Individual-level Impacts

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- **Health**
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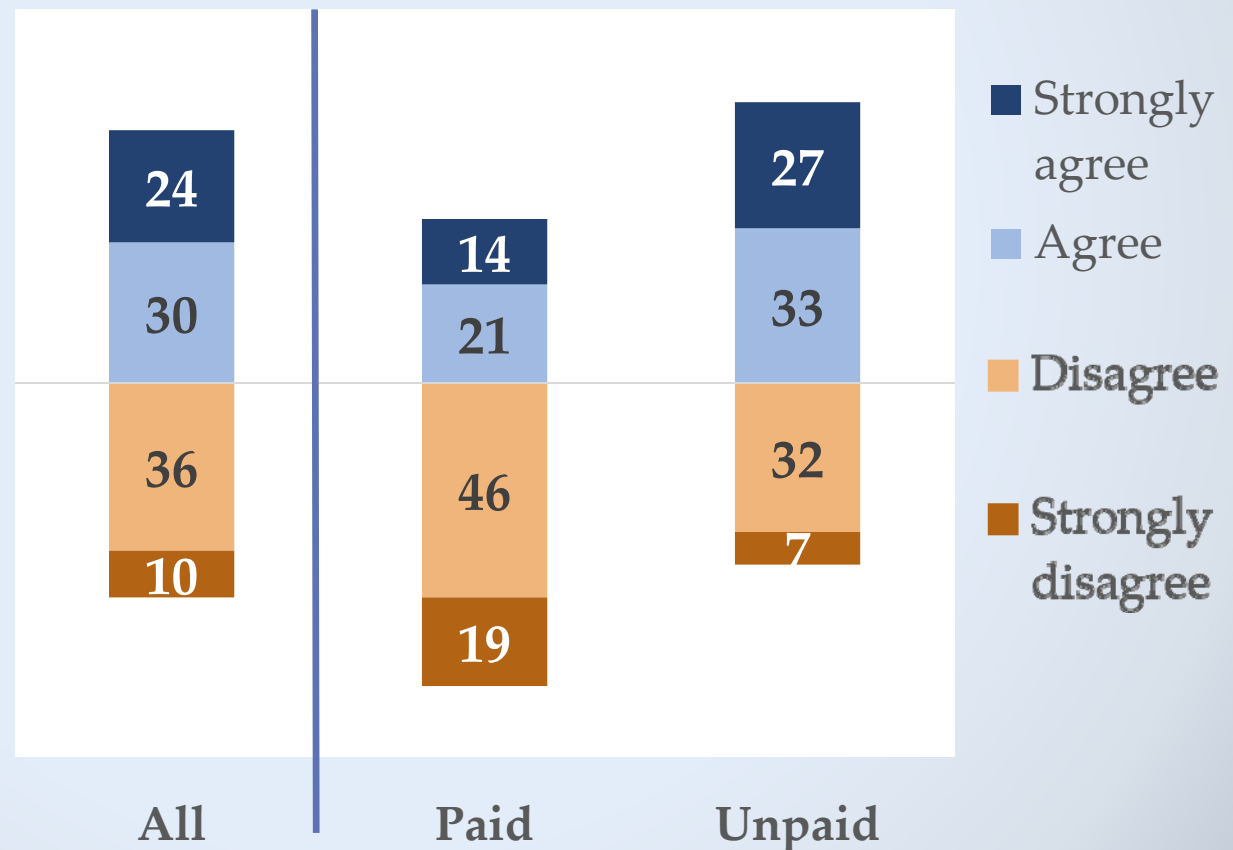
Turbines cause human health problems



Individual-level Impacts

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- **Property value**
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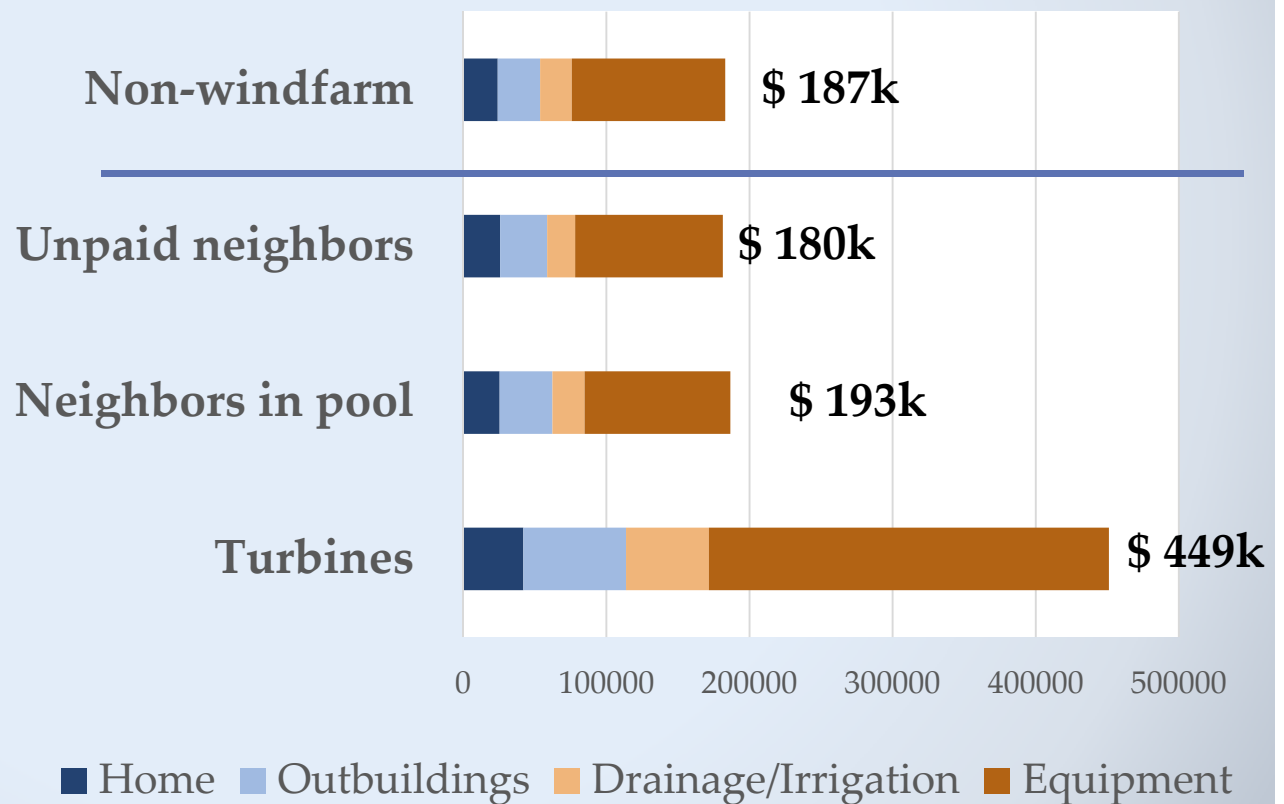
Turbines decrease nearby property values



Individual-level Impacts

Investments over 5 years: 2009-2013

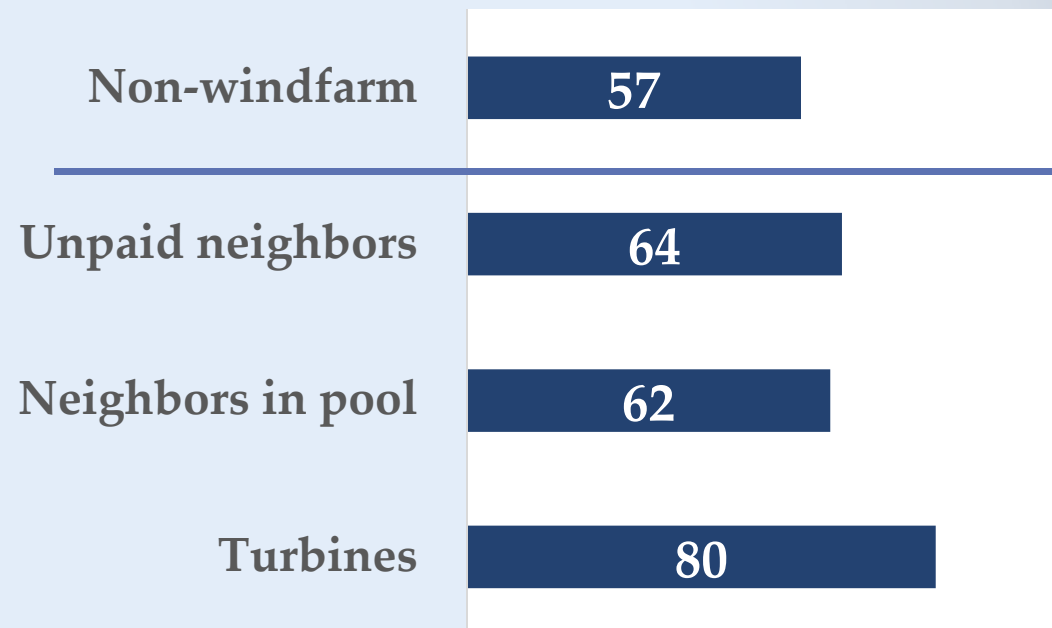
- Noise
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- **Farm income**
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Individual-level Impacts

- Noise
- Visual
- Health
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- Farm income
- Farm succession

% that have farm succession plan



Individual-level Impacts

Take-aways

- Views on noise, visual impact, property values roughly 50/50
Financial stake = rosier view
OR
no financial stake = more soured view
- Most don't see health impacts
- Having turbine on property results in additional on-farm investment, succession planning

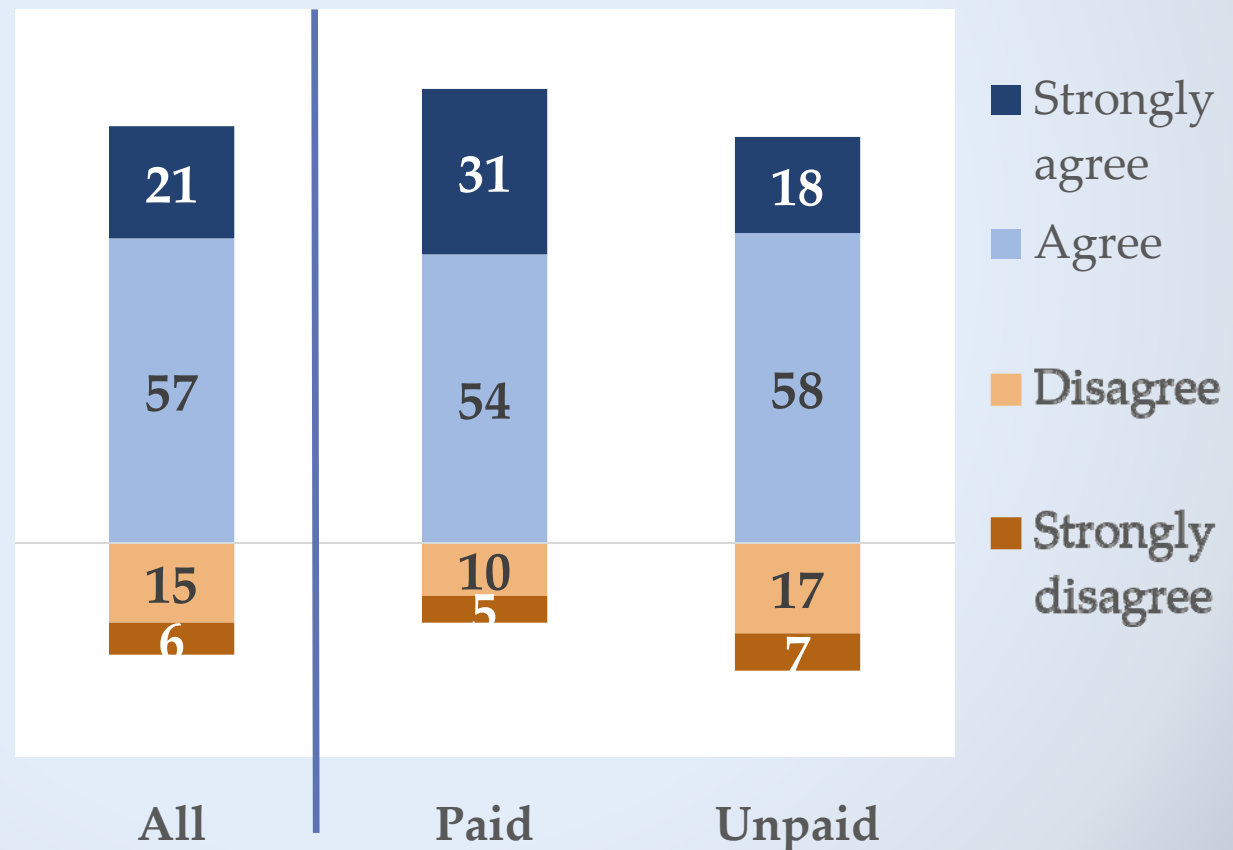
Community-level Impacts

- Job creation
- Roads
- Township services
- County services
- Schools
- Relationships with neighbors

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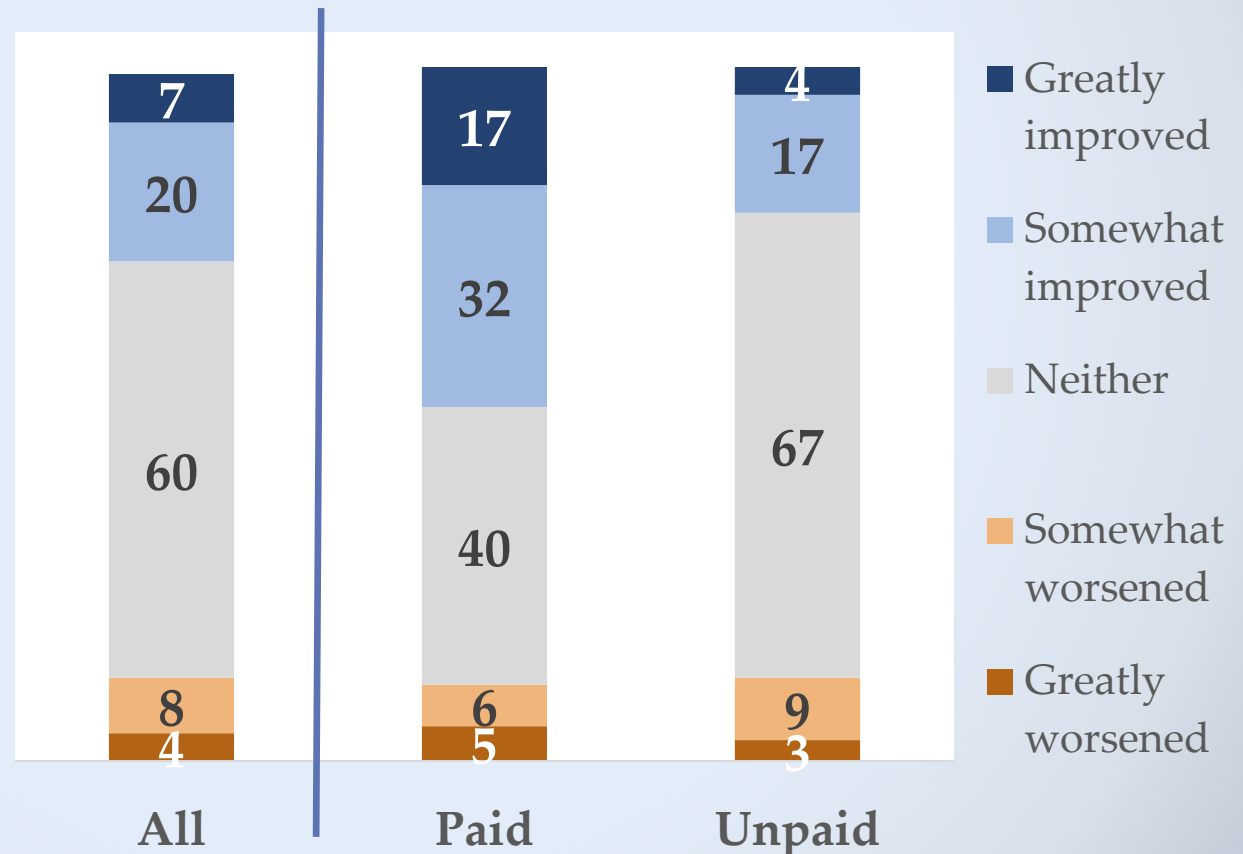
Turbines create jobs



Community-level Impacts

- Job creation
- **Roads**
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Turbines' effect on local roads

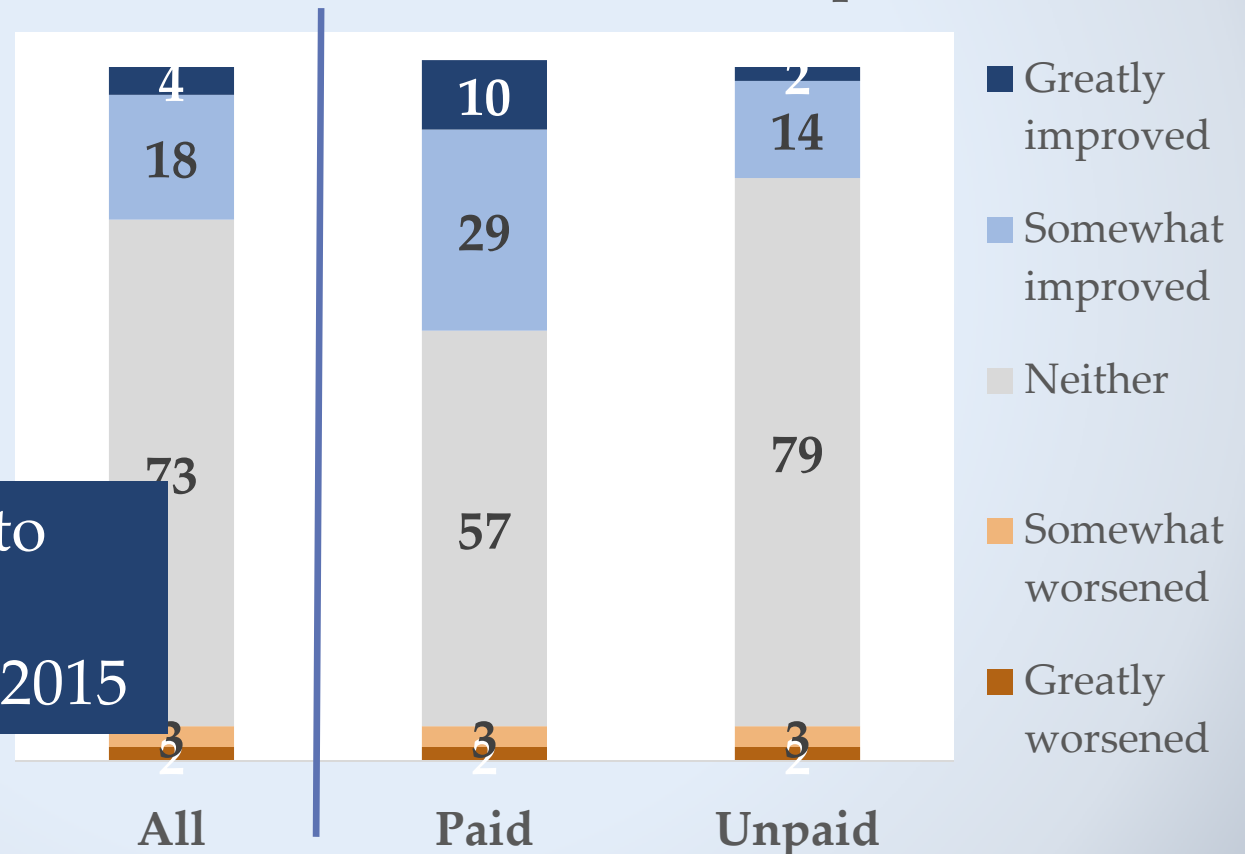


Community-level Impacts

Turbines' effect on township services

- Job creation
- Roads
- Township services
- County services

\$2.630 Million to townships in Huron County in 2015

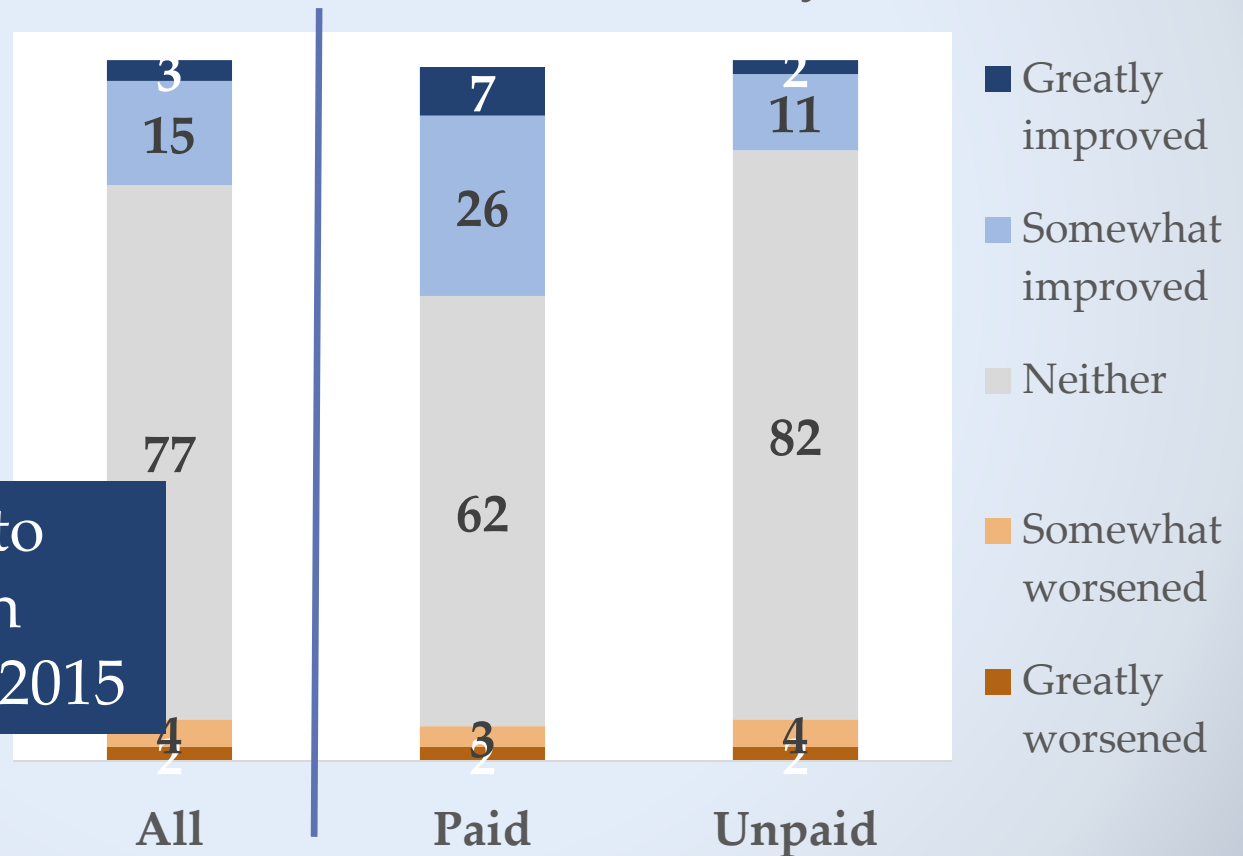


Community-level Impacts

Turbines' effect on county services

- Job creation
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- **County services**

\$2.749 Million to county gov't in Huron County in 2015

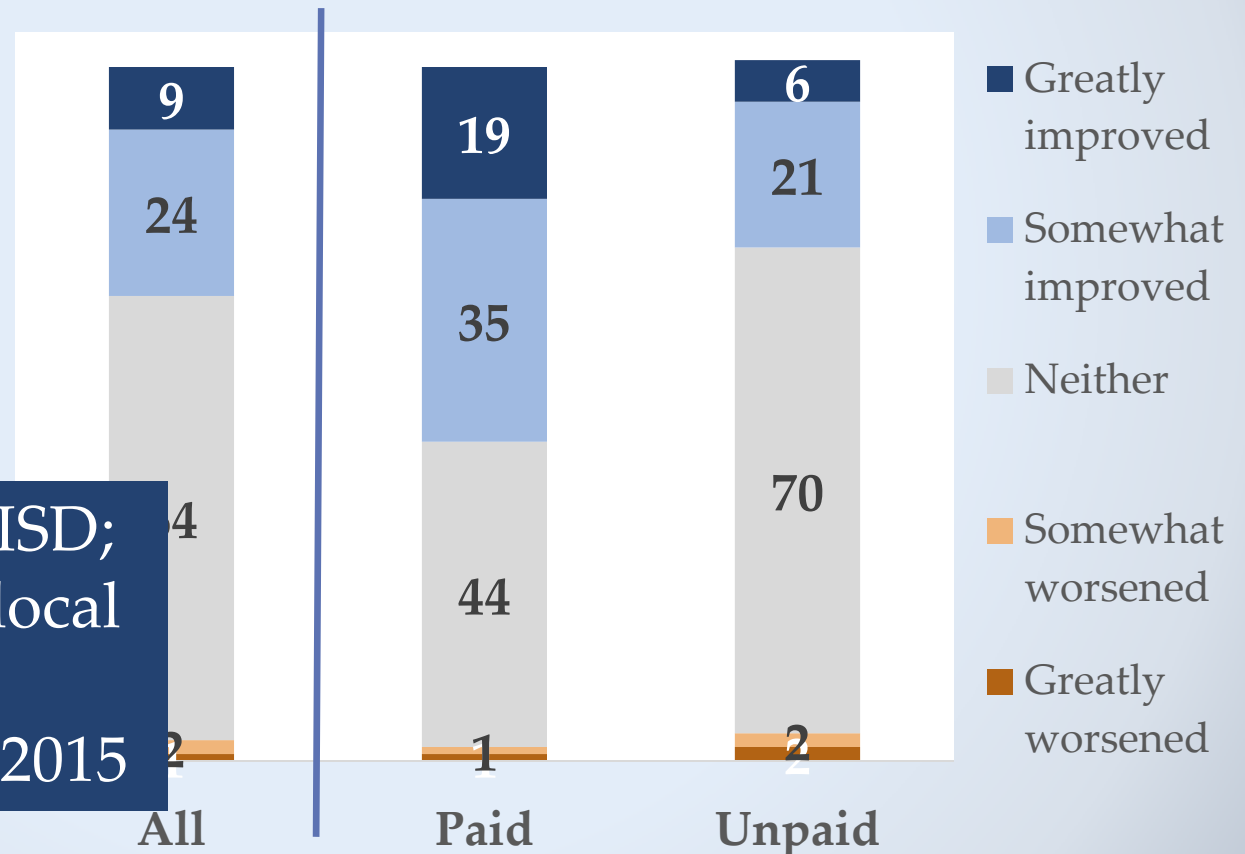


Community-level Impacts

- Job creation
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**\$2.083 Million to ISD;
\$2.074 Million to local
schools in
Huron County in 2015**

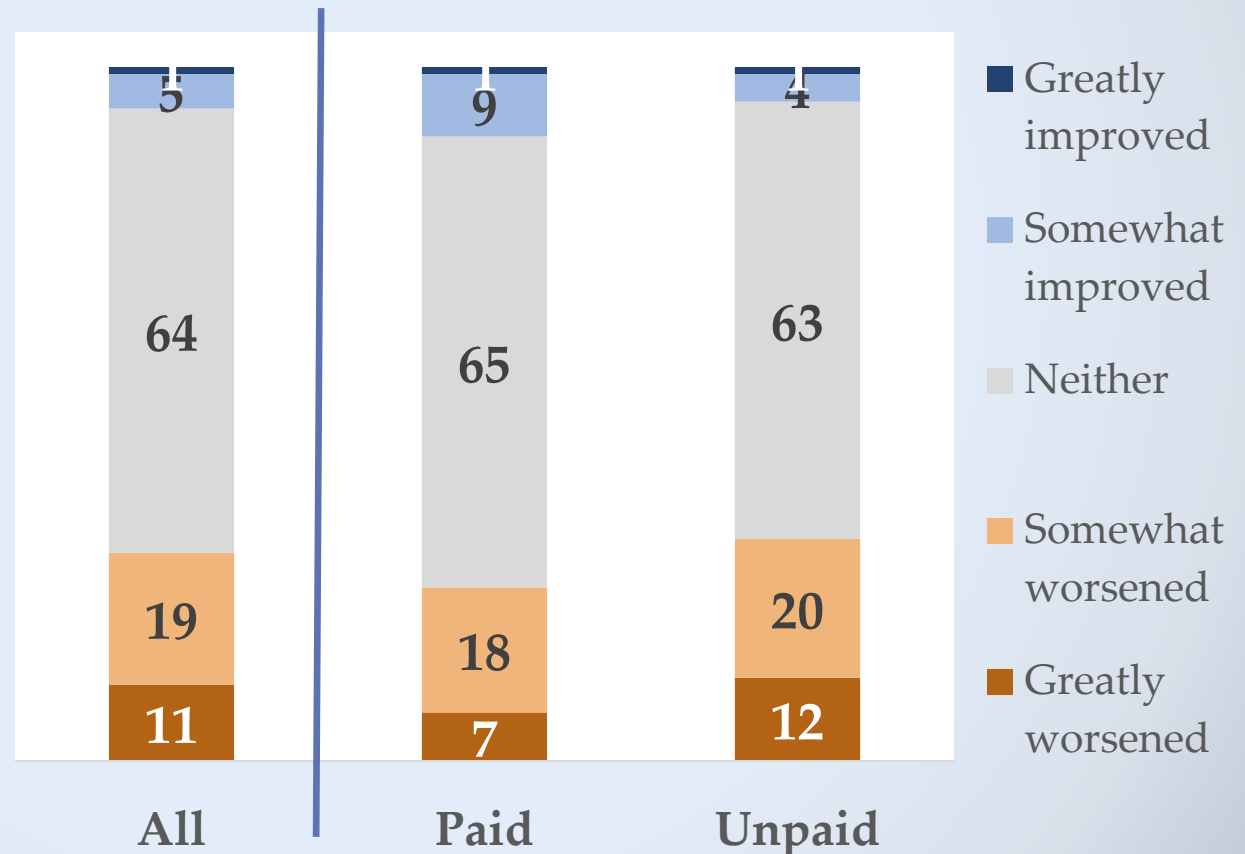
Turbines' effect on local schools



Community-level Impacts

Turbines' effect on relationships with neighbors

- Job creation
- Roads
- Township services
- County services
- Schools
- Relationships with neighbors



Community-level Impacts Take-aways

- Most see job creation (with caveat about types of jobs)
- Majority haven't seen changes to community services, schools, or relationships with neighbors
 - Tax uncertainty
 - Increasing cost of services may limit visible impacts

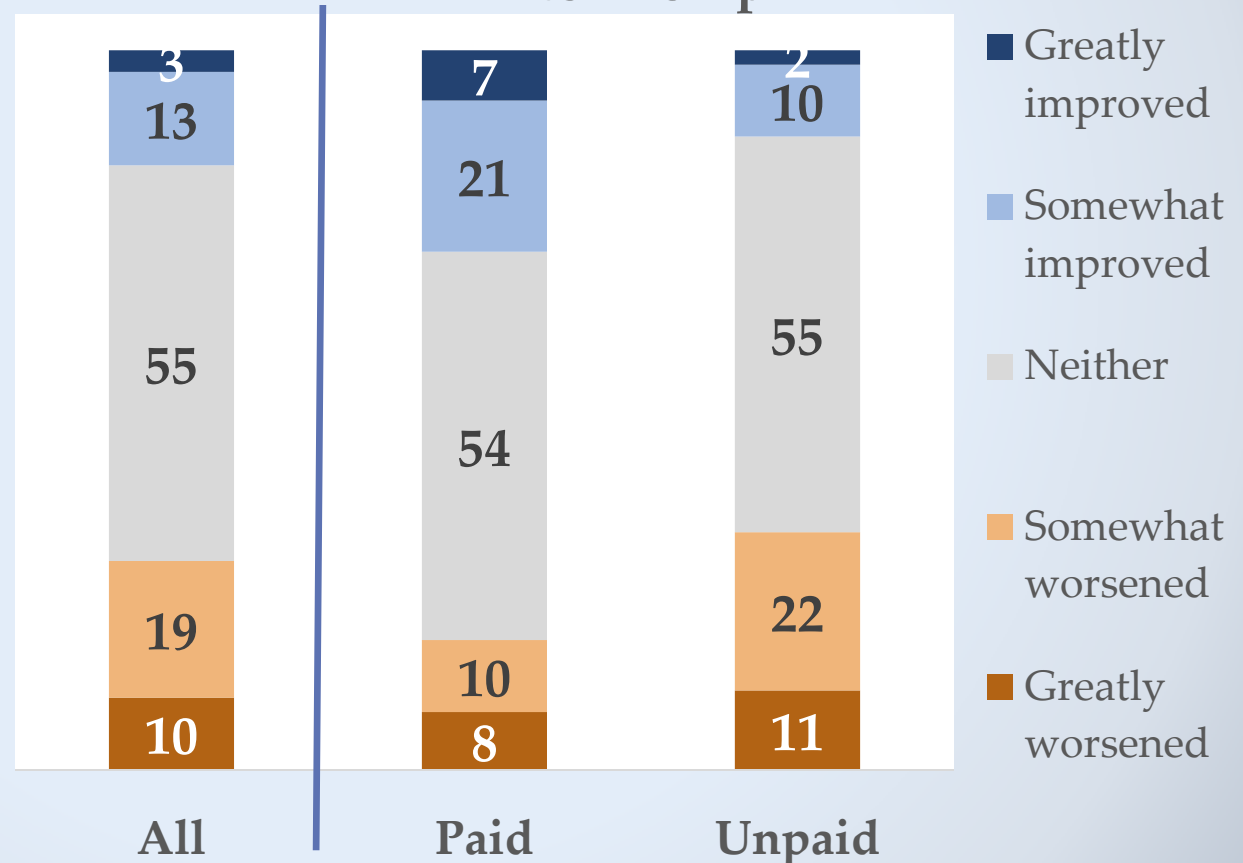
Would they welcome wind development again?

- Quality of life
- Willingness to accept new turbines

Would they welcome wind development again?

Turbines' effect on overall quality of life in township

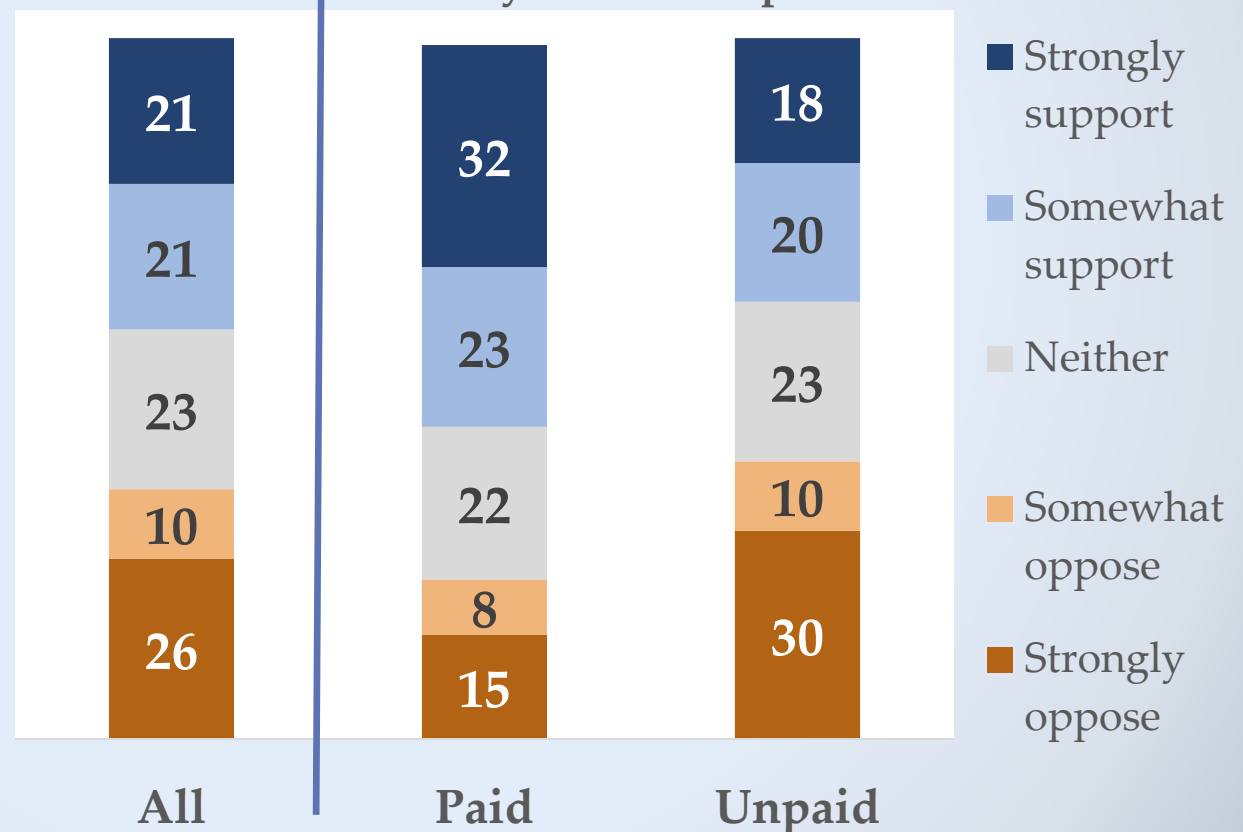
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- Willingness to accept new turbines



Would they welcome wind development again?

Willingness to host additional turbines in your township

- Quality of life
- Willingness to accept new turbines



My advice to local officials

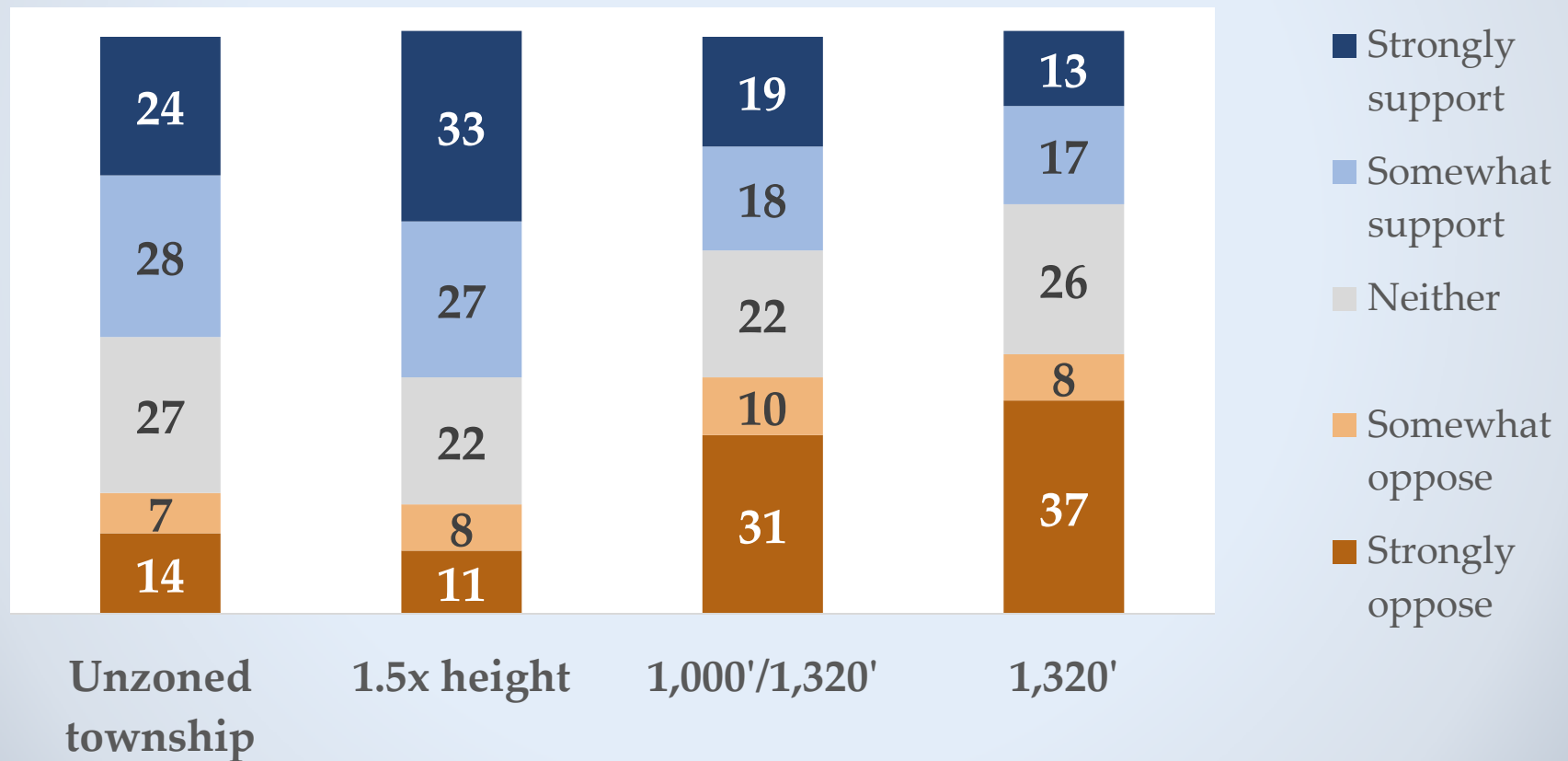
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How does this fit with your long-term plan?

- If goal is for substantial residential development or growth of tourism, wind may not be right
- If goal is to sustain agriculture, wind can fit

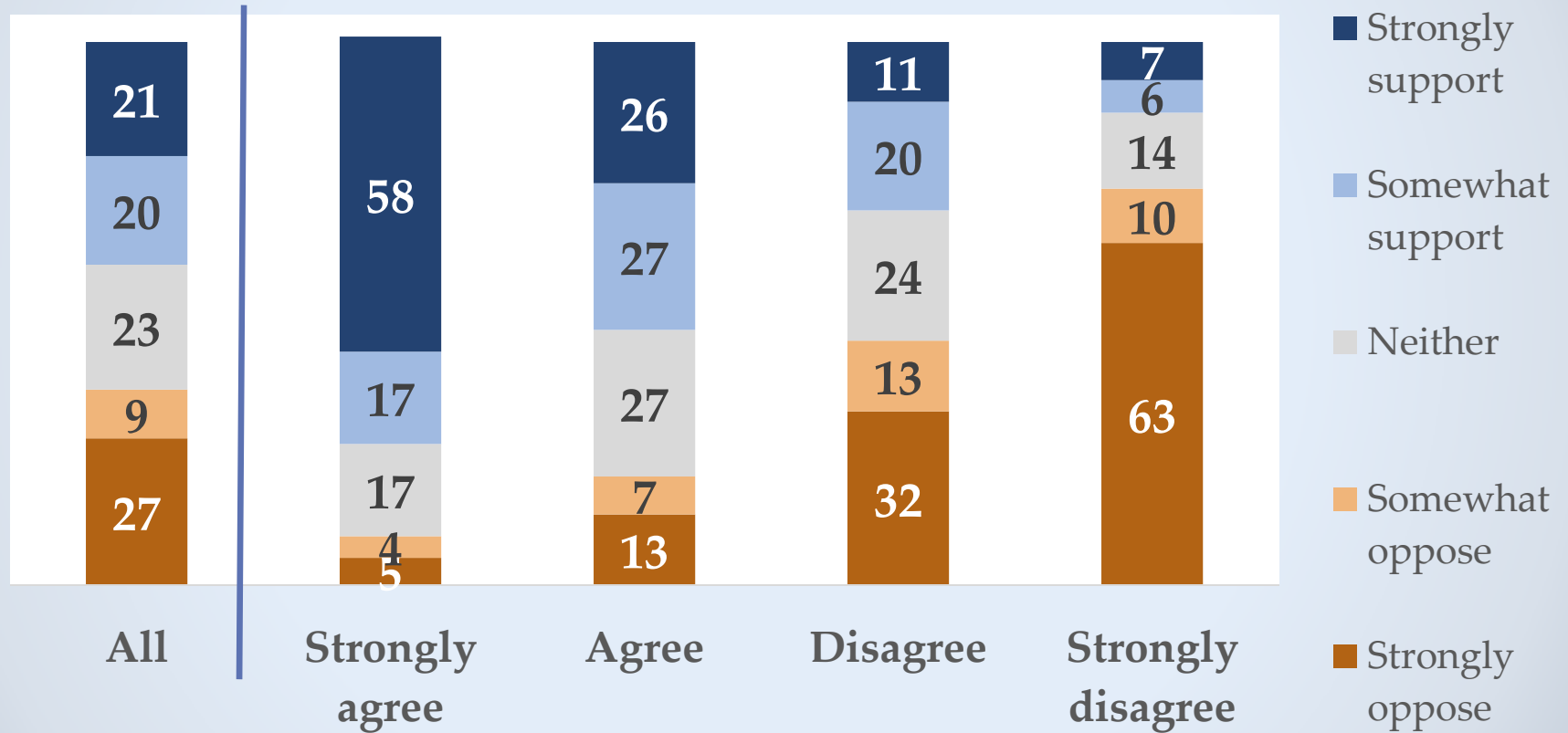
The ideal zoning ordinance?

Support/oppose additional turbines in township,
by zoning setback distance



The importance of process

Support/oppose additional turbines in township,
by agree/disagree opportunity to provide input

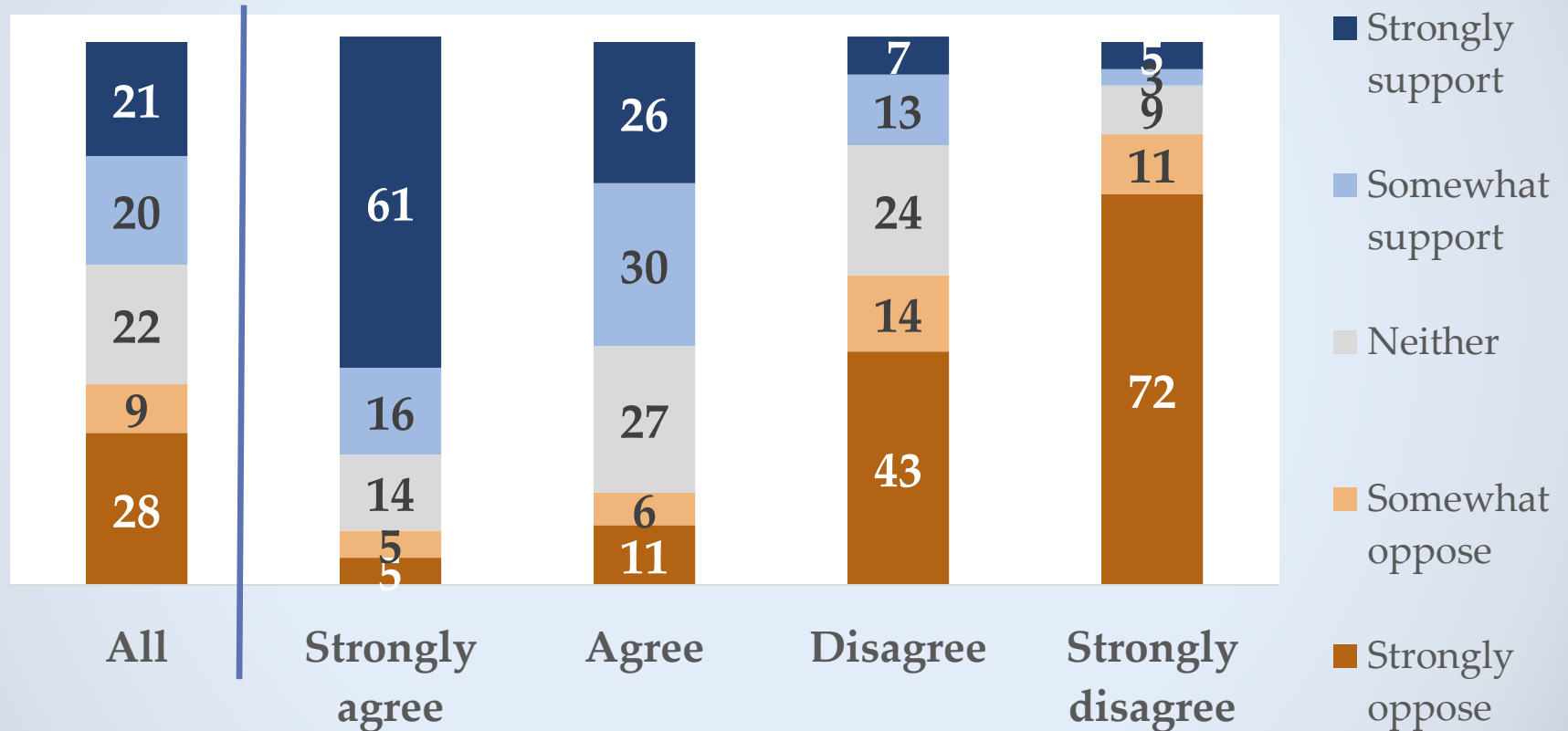


“I had ample opportunity to provide input during the wind project planning stage.”

My advice to wind developers ...

The importance of transparency

Support/oppose additional turbines in township,
by agree/disagree wind developer acted transparently



“The wind project developer acted openly and transparently throughout the planning process.”

Be ready to answer questions

- About who benefits / amount of tax revenue
- About decommissioning
- On where the power goes
- On the impact of the windfarm on their electric bill
- On the extent of government subsidies



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