

Is Wind Energy Right for your Township?

Greenwood Township
September 20, 2017

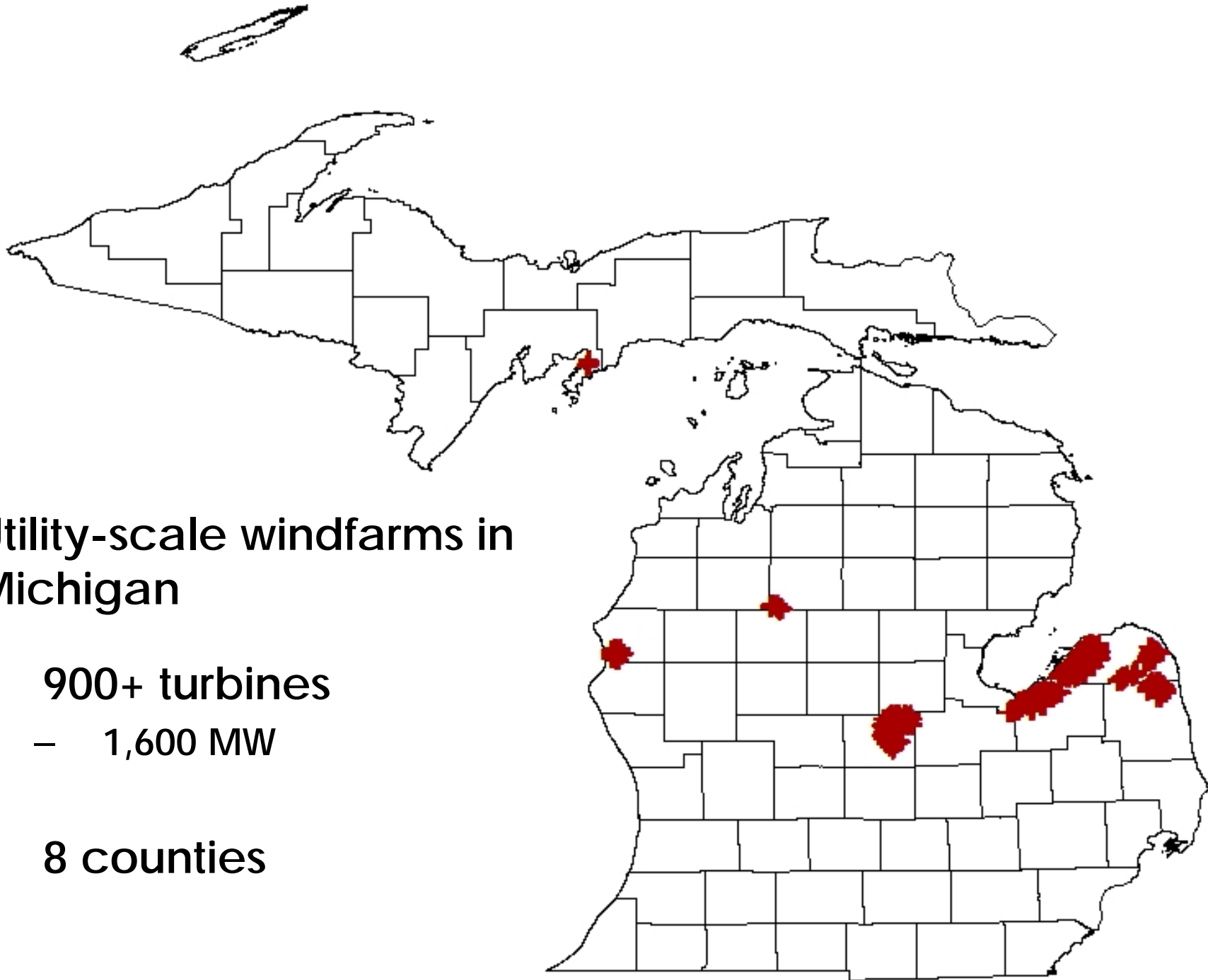
Sarah Mills, PhD

Who am I & Why am I here?

- PhD in land use planning
 - Farmland preservation
- Grant from C.S. Mott Foundation, taking lessons-learned from Michigan windfarms to ensure future wind development respects local community values
- To provide data-based account of opinions
 - Not relying on newspaper accounts
 - Give voice to the quiet folks

What I'll cover

- Overview of wind development
- Surveys of landowners
 - Individual impacts
 - Community impacts
- What should you consider?



Utility-scale windfarms in Michigan

- 900+ turbines
 - 1,600 MW
- 8 counties

Wind Development 101

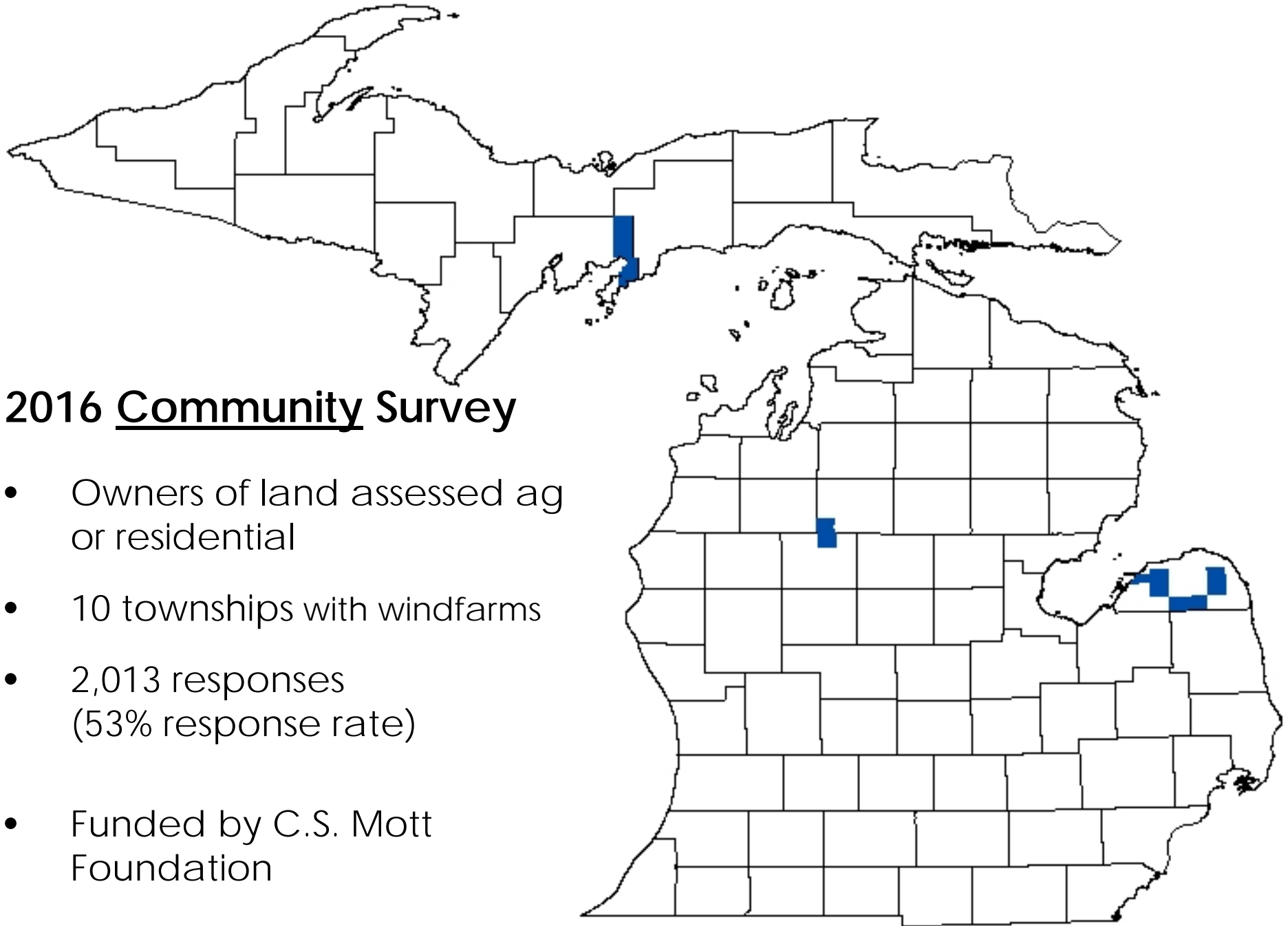


- Zoning constraints
- Landowner payments
 - Disturbance
 - Royalty
 - Participation/friendly neighbor
- Personal Property Tax
 - ~\$20M per year statewide
 - Turbine value + easement (~\$2.1M)
 - x 100% in year 1
 - x 30% in year 10+

Survey Data

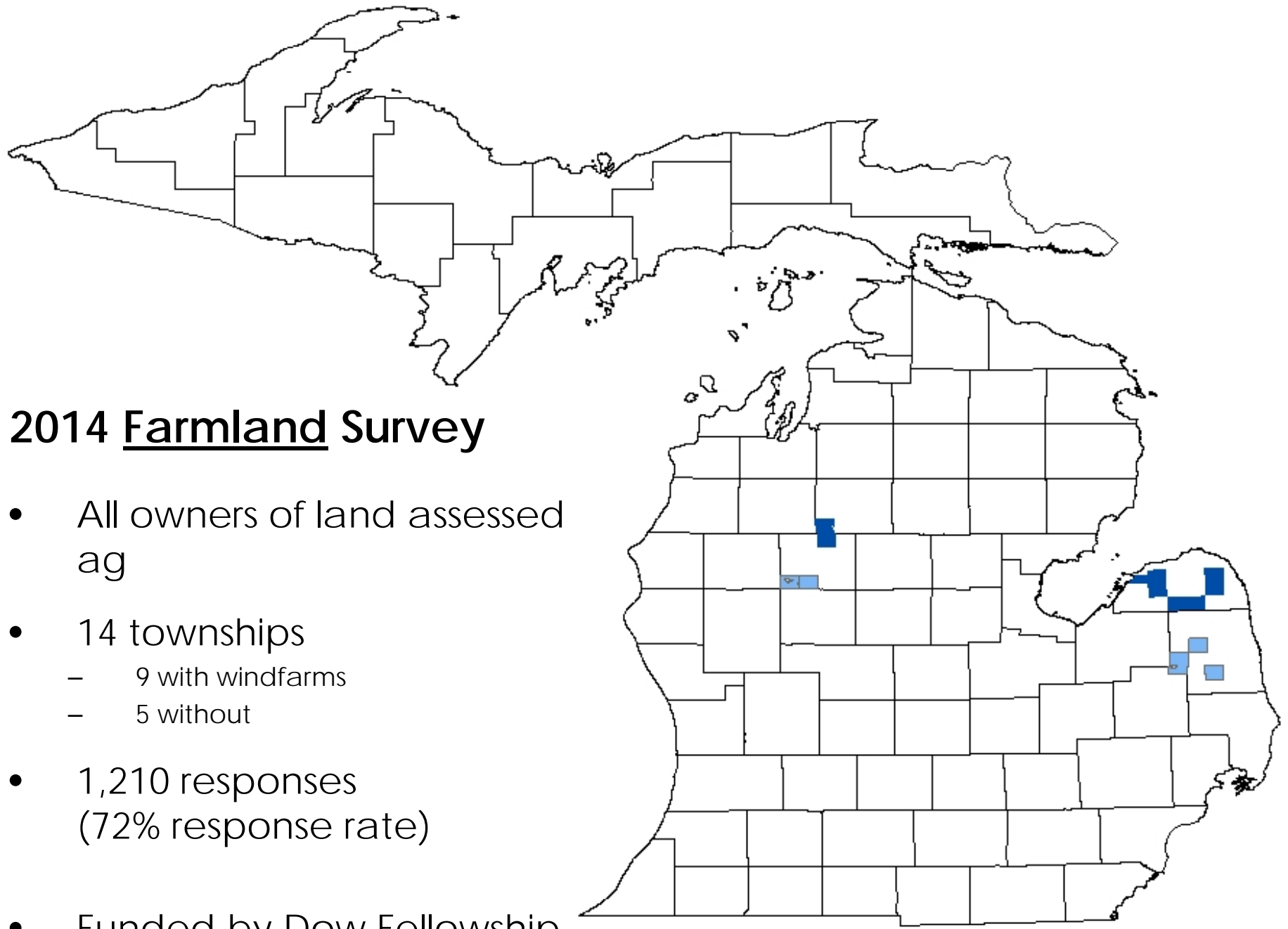
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When, who, and where
& what did I find?



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

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
- Attitudes about process, wind developer

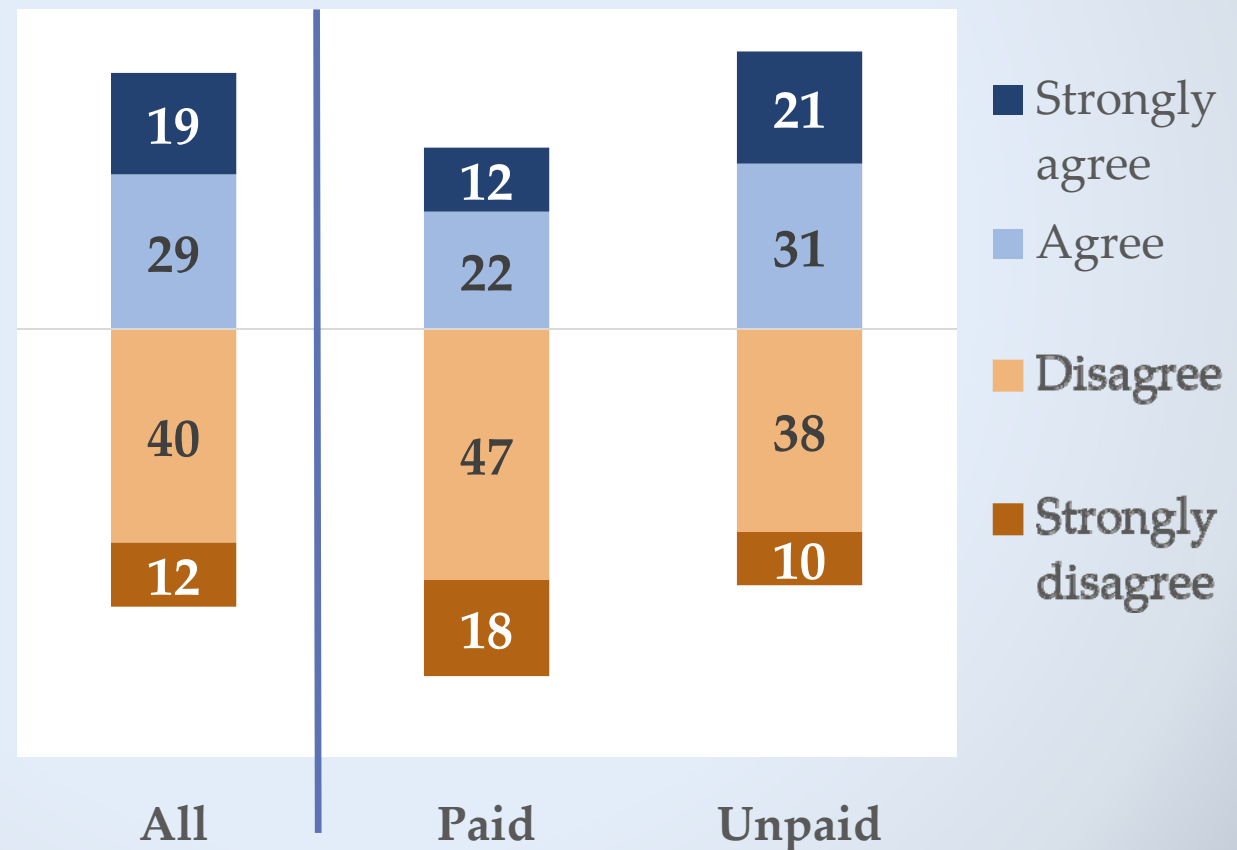
Individual-level Impacts

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

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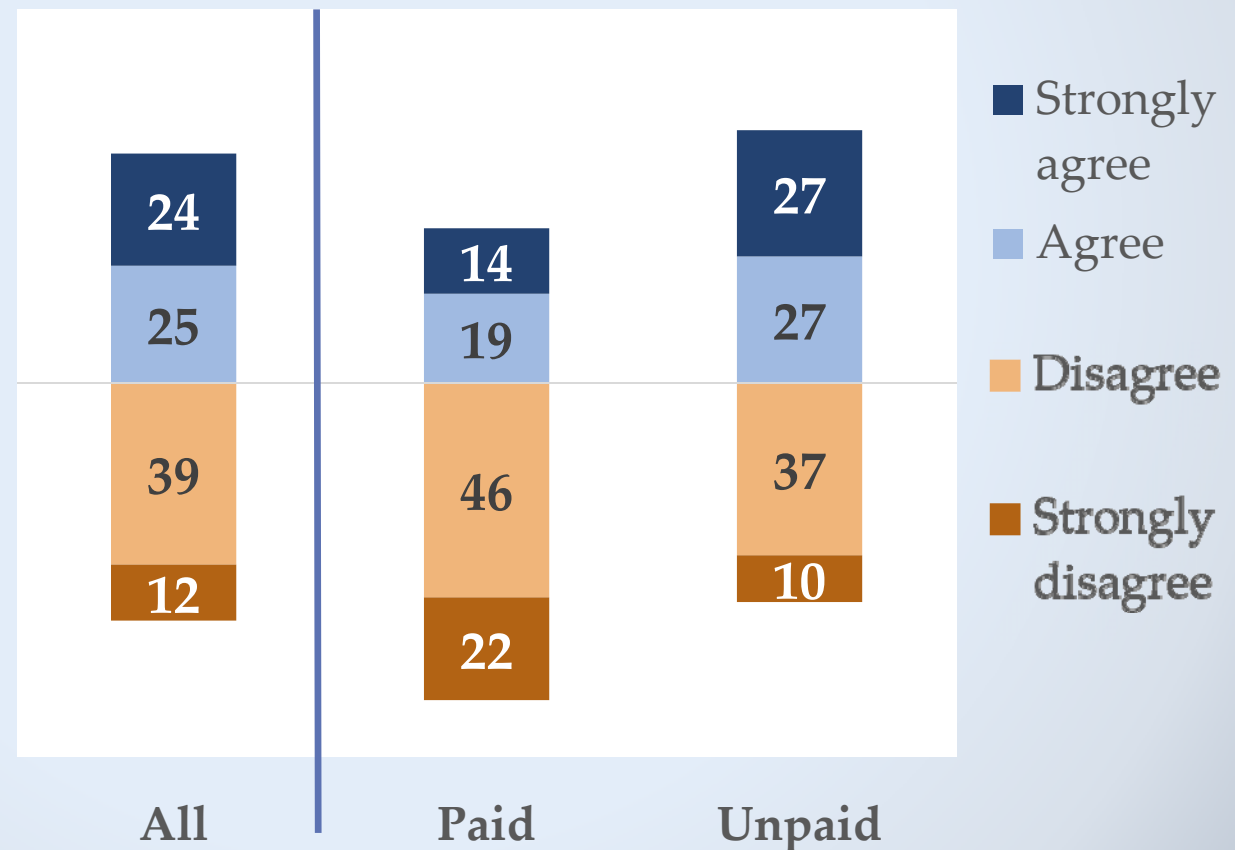
Turbines create noise pollution



Individual-level Impacts

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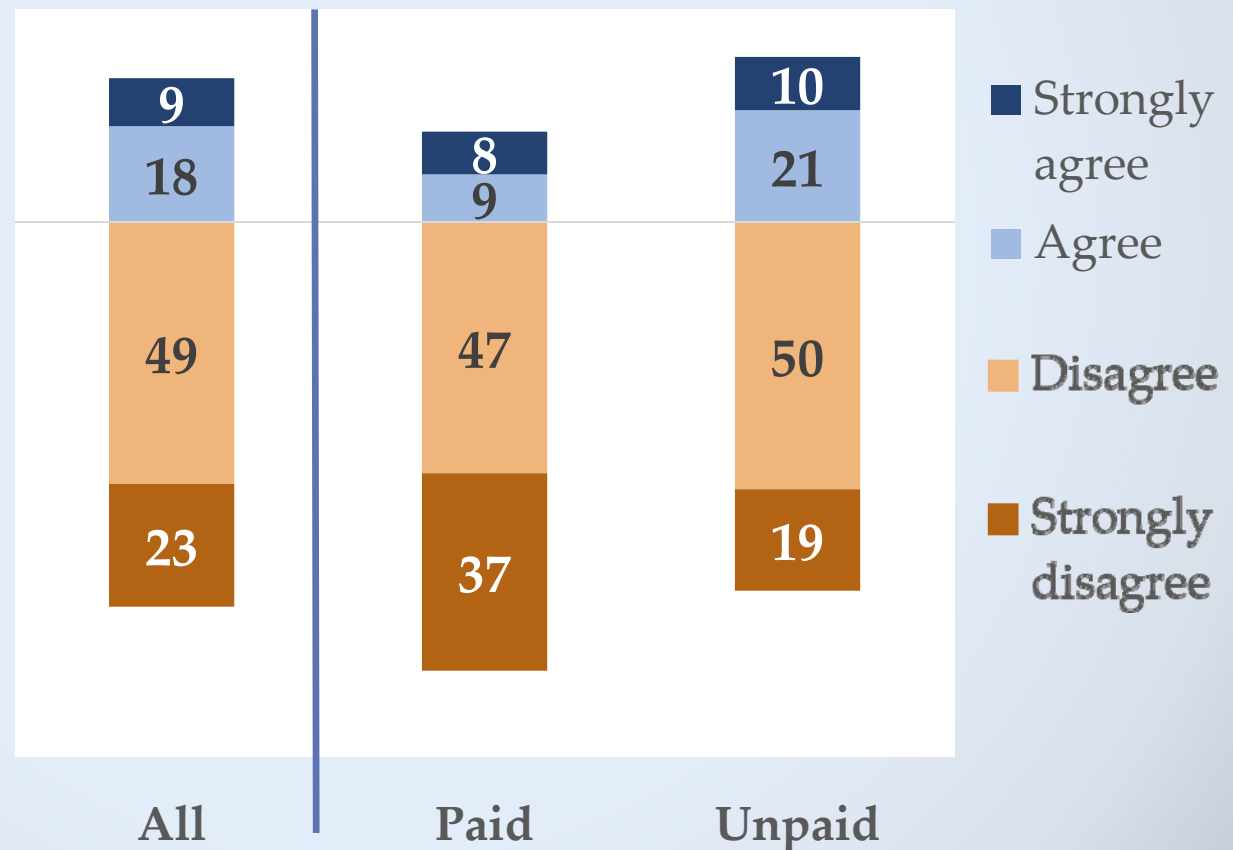
Turbines create visual/aesthetic problems



Individual-level Impacts

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

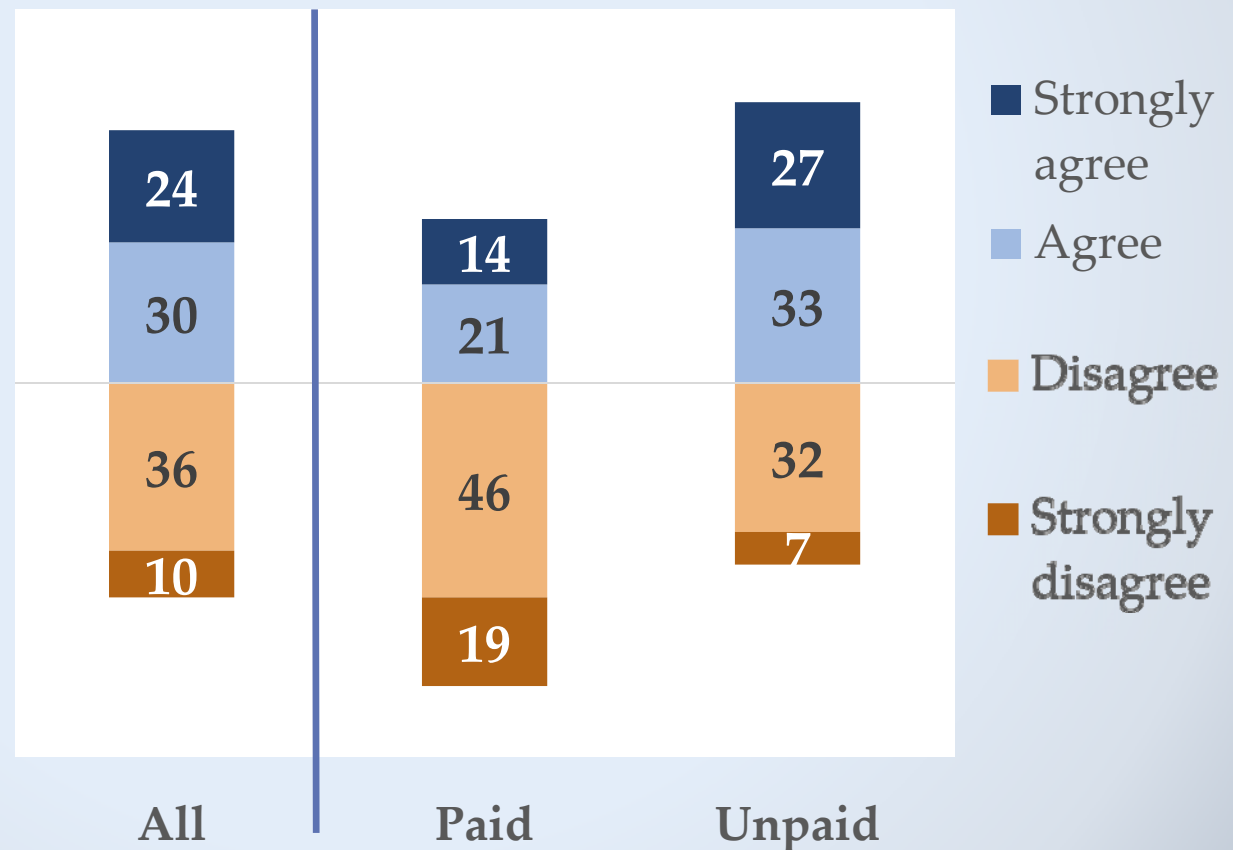
Turbines cause human health problems



Individual-level Impacts

- Noise
- Visual
- Health
- **Property value**
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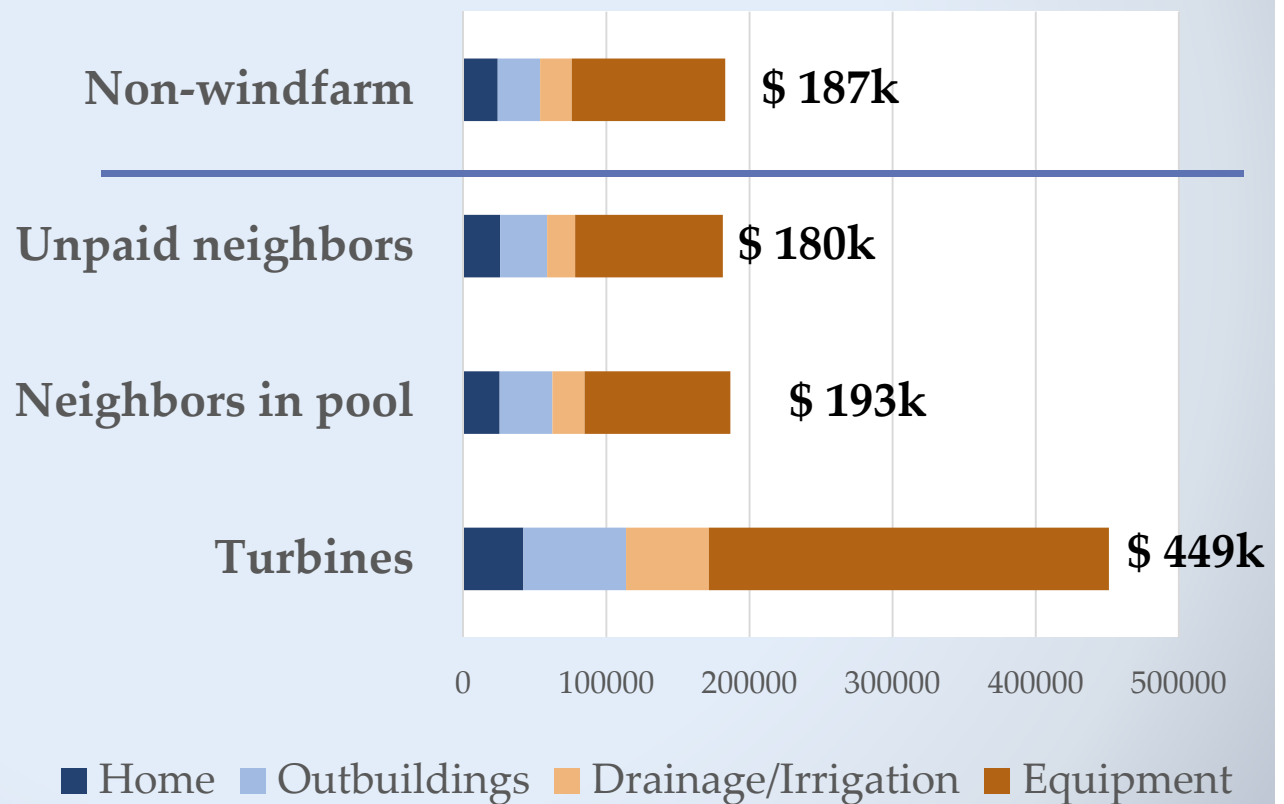
Turbines decrease nearby property values



Individual-level Impacts

Investments over 5 years: 2009-2013

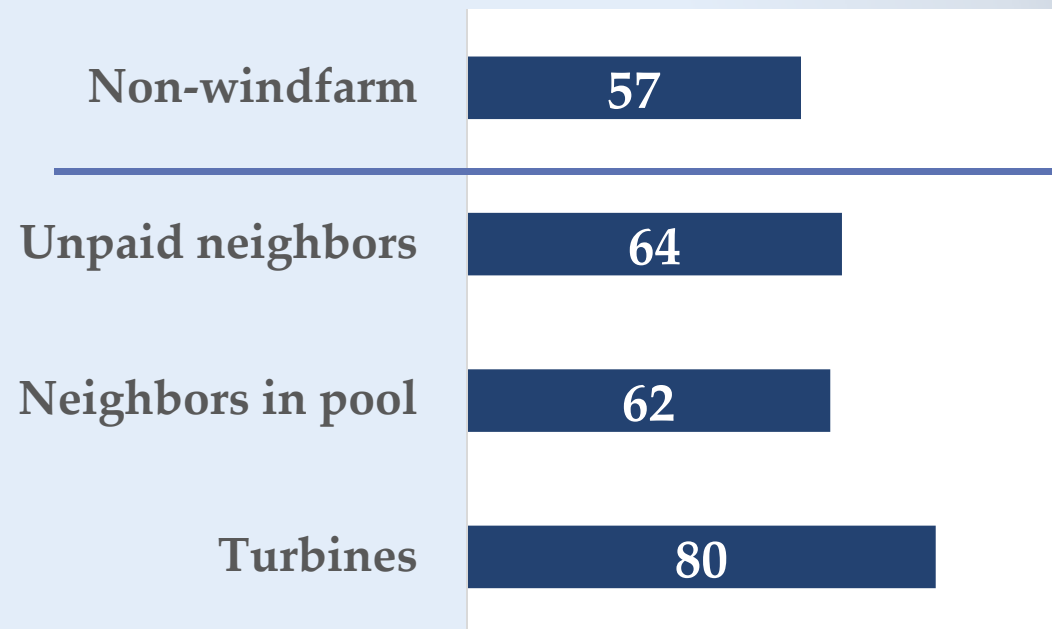
- Noise
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Individual-level Impacts

- Noise
- Visual
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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
BUT STILL SPLIT OPINIONS
- Most don't see health impacts, but some do
- Having turbine on property is linked to additional on-farm investment, succession planning

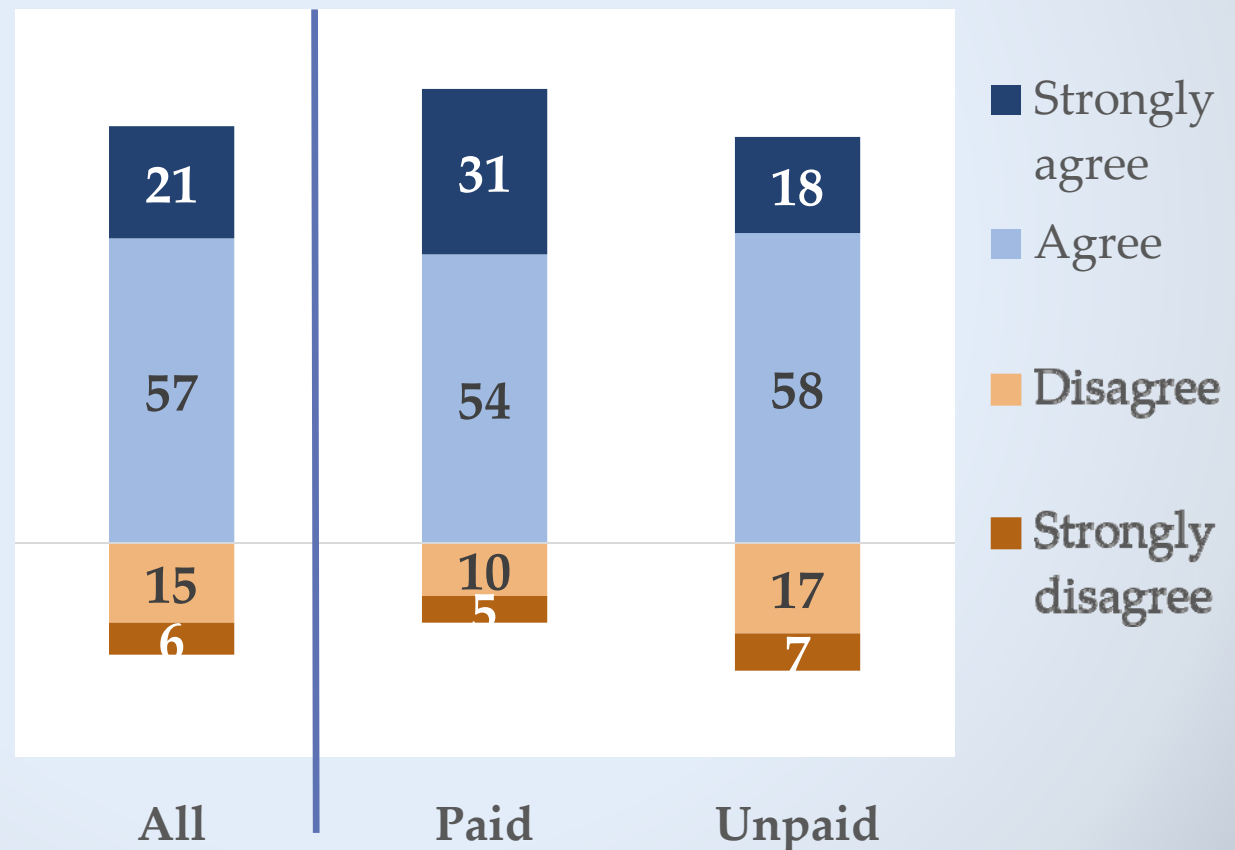
Community-level Impacts

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

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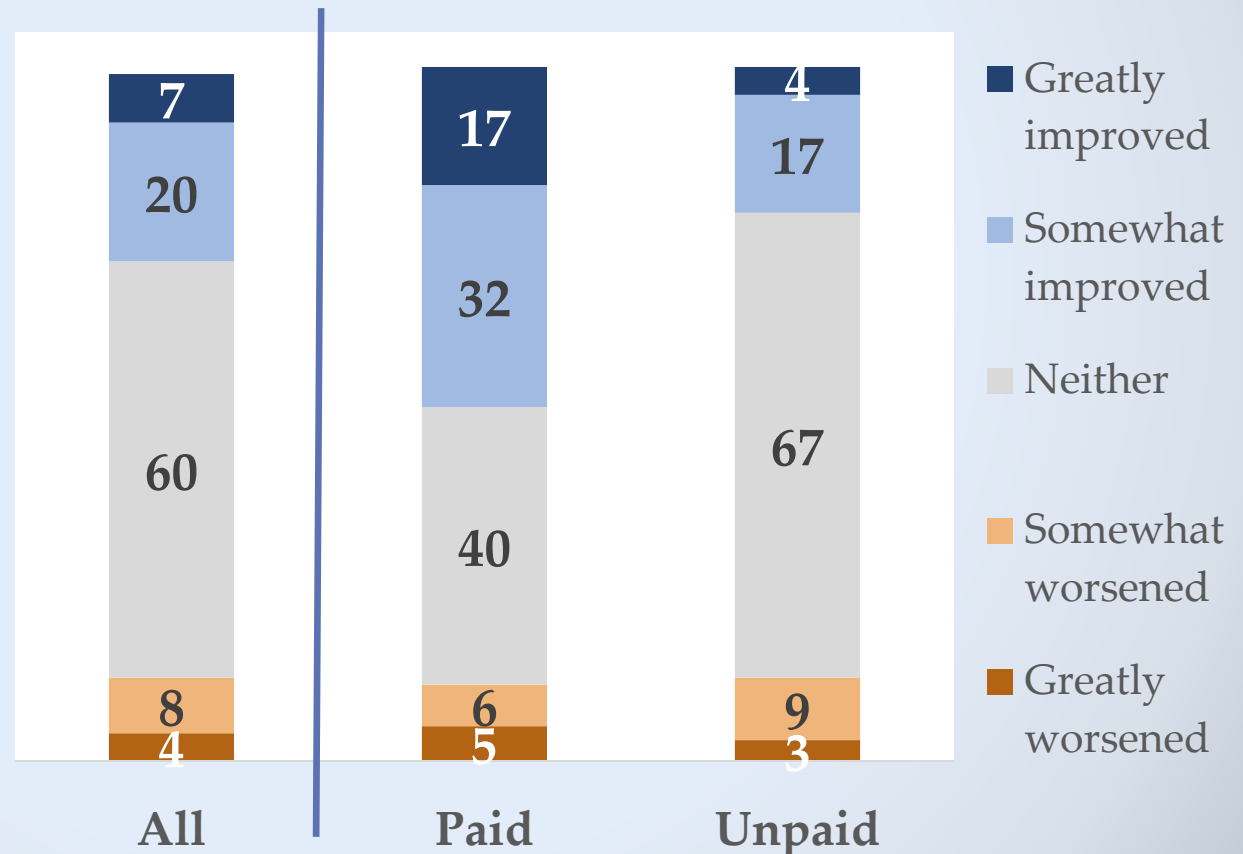
Turbines create jobs



Community-level Impacts

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

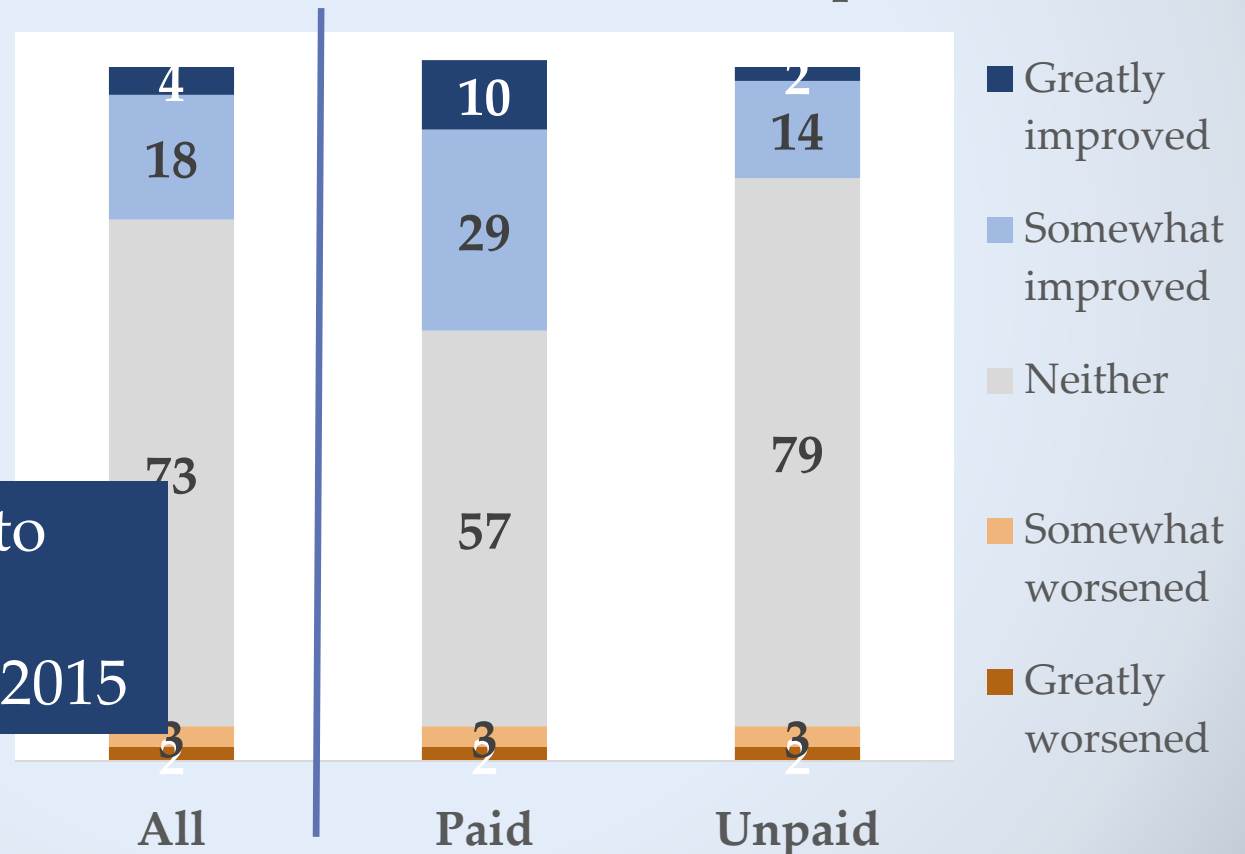


Community-level Impacts

Turbines' effect on township services

- Job creation
- Roads
- Township services
- County services

\$2.630 Million to townships in Huron County in 2015

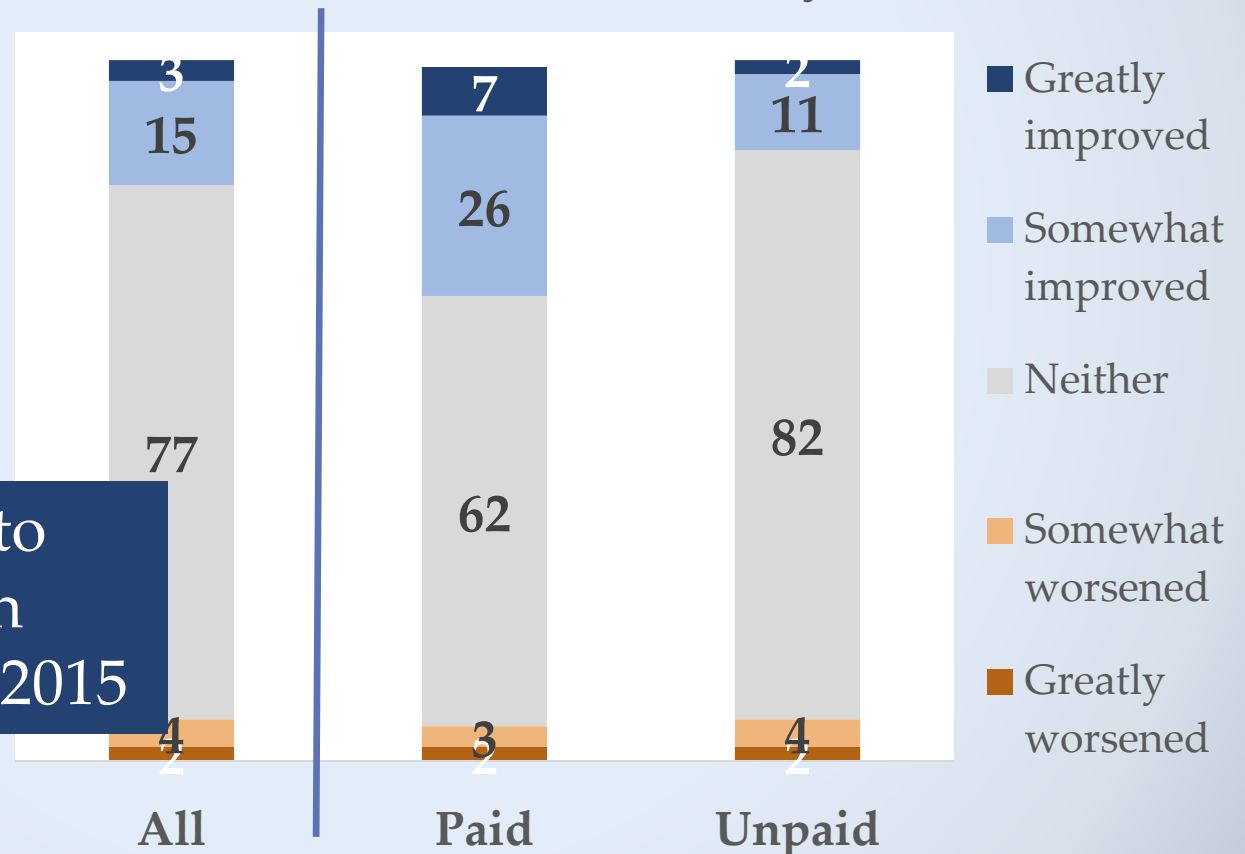


Community-level Impacts

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

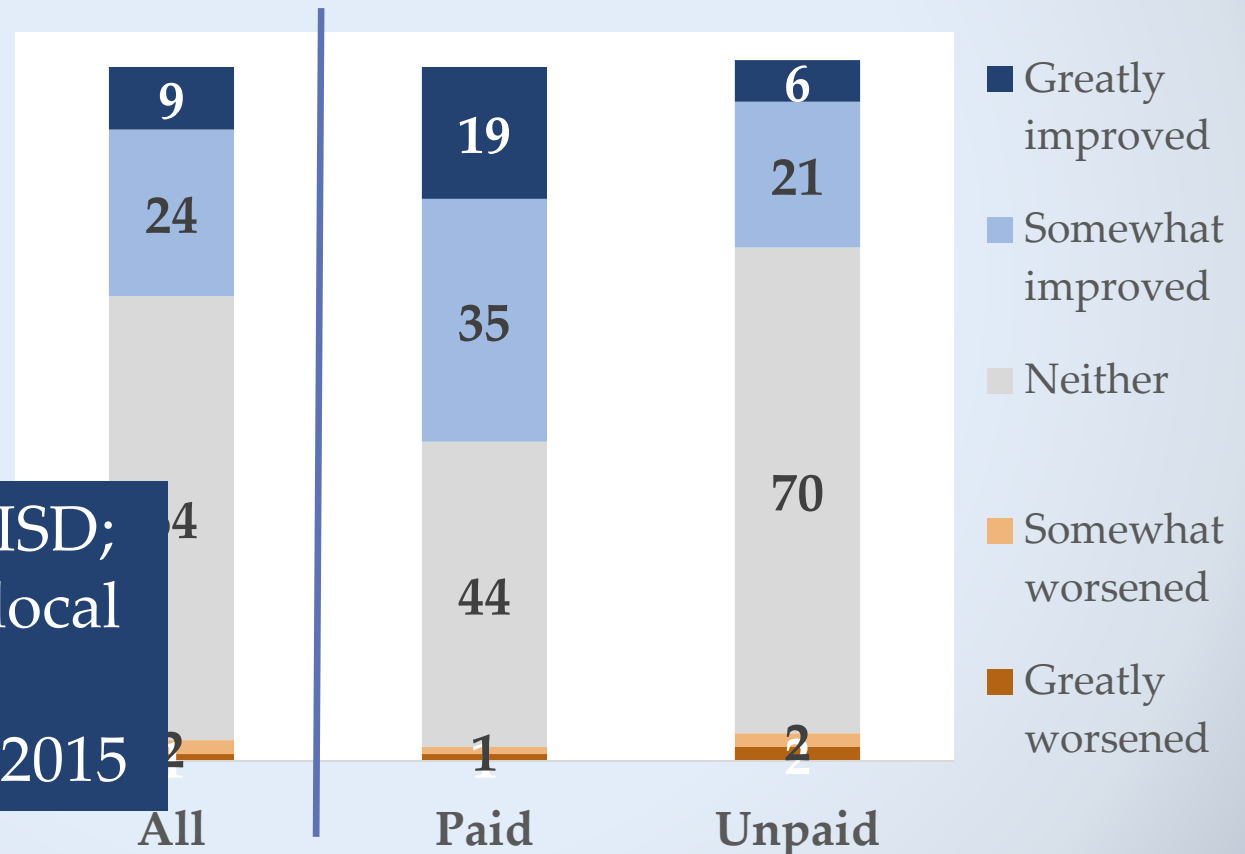


Community-level Impacts

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

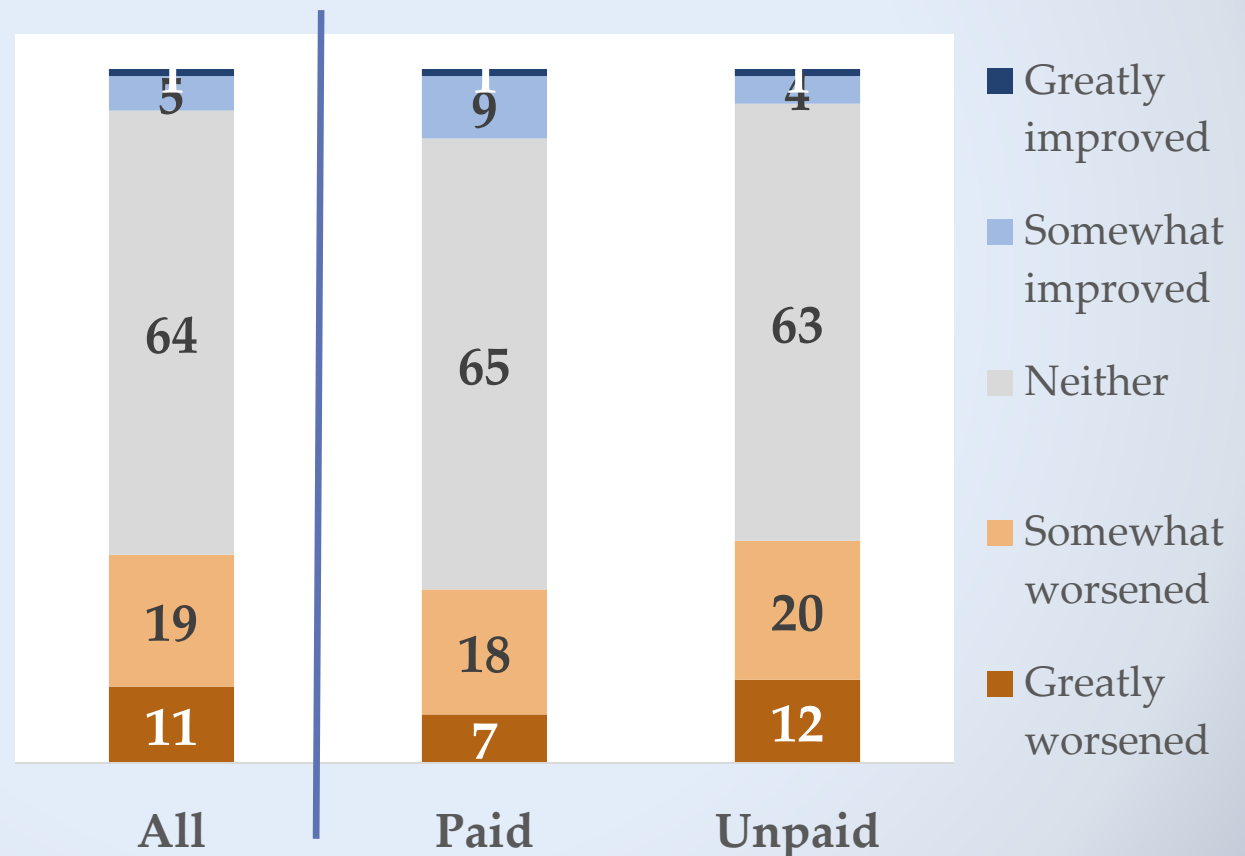
Turbines' effect on local schools



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 or schools
 - Increasing cost of services, declining revenues over time may limit visible impacts
- Majority don't think it's divided the community
 - Even in some pretty contentious projects

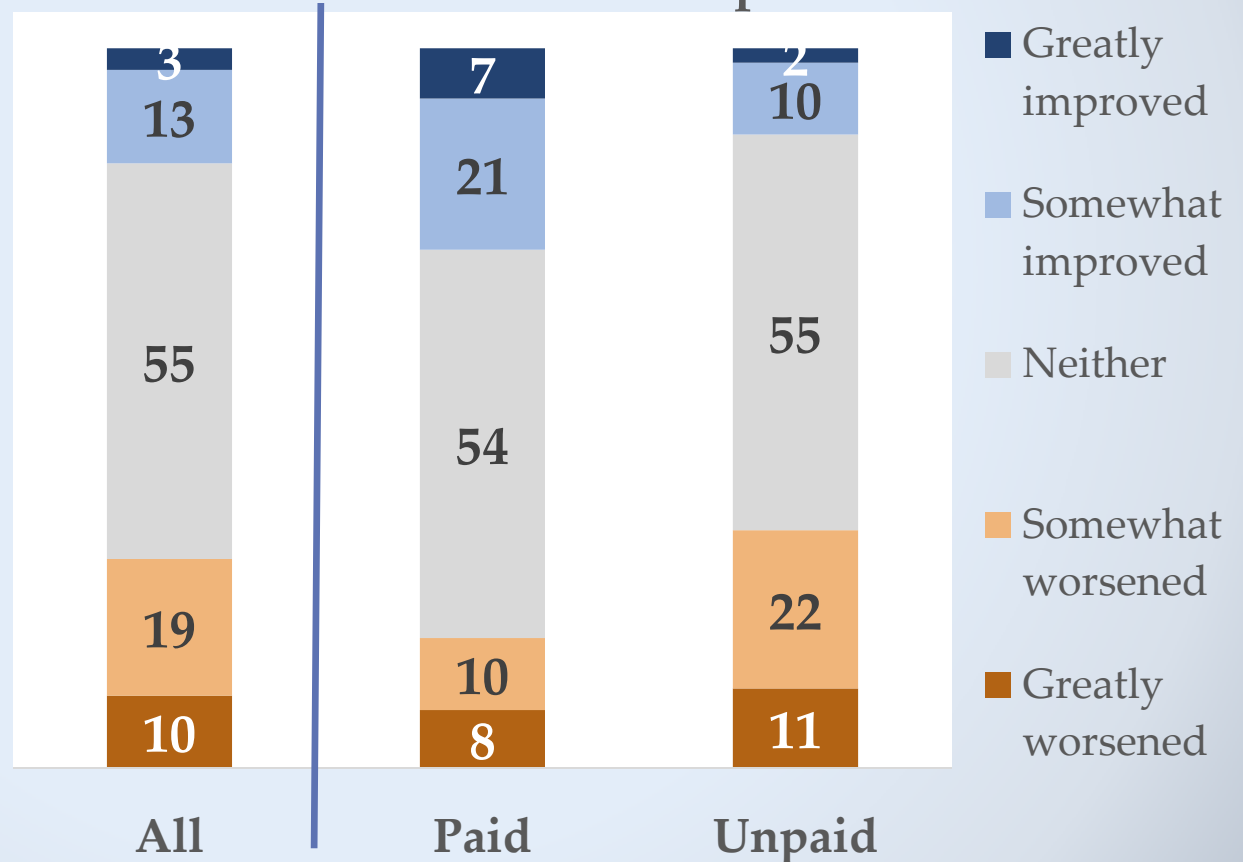
Would they welcome more wind development?

- Quality of life
- Willingness to accept new turbines

Would they welcome more wind development?

Turbines' effect on overall quality of life in township

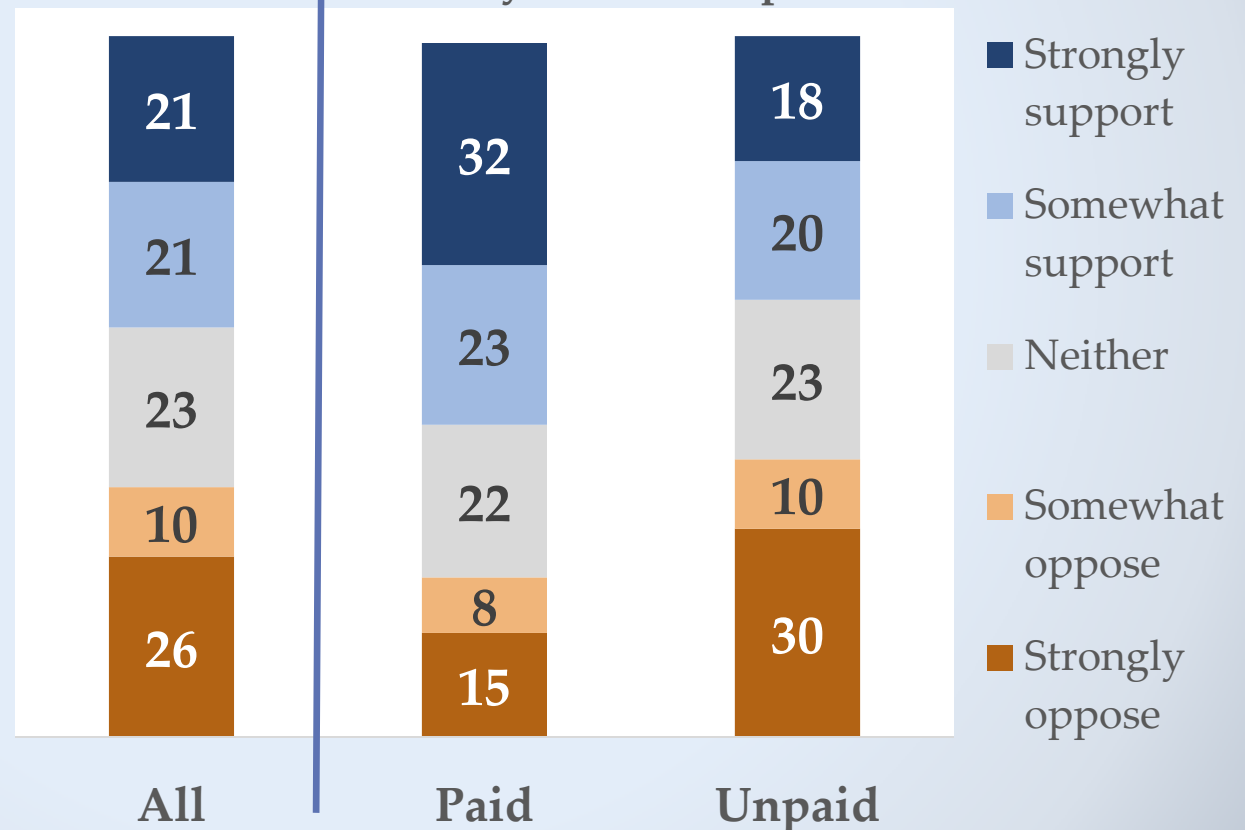
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- Willingness to accept new turbines



Would they welcome more wind development?

Willingness to host additional turbines in your township

- Quality of life
- Willingness to accept new turbines



What should you consider?

...

How to reap the benefits without the heartburn

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
 - These landowners less likely to directly benefit
 - Some may be deterred from building
- If goal is to sustain agriculture, wind can fit
 - Farm income diversification & succession planning
 - May stabilize population
 - Siting on property lines takes little land out of production
 - Compatible with PA 116

Your zoning should then match

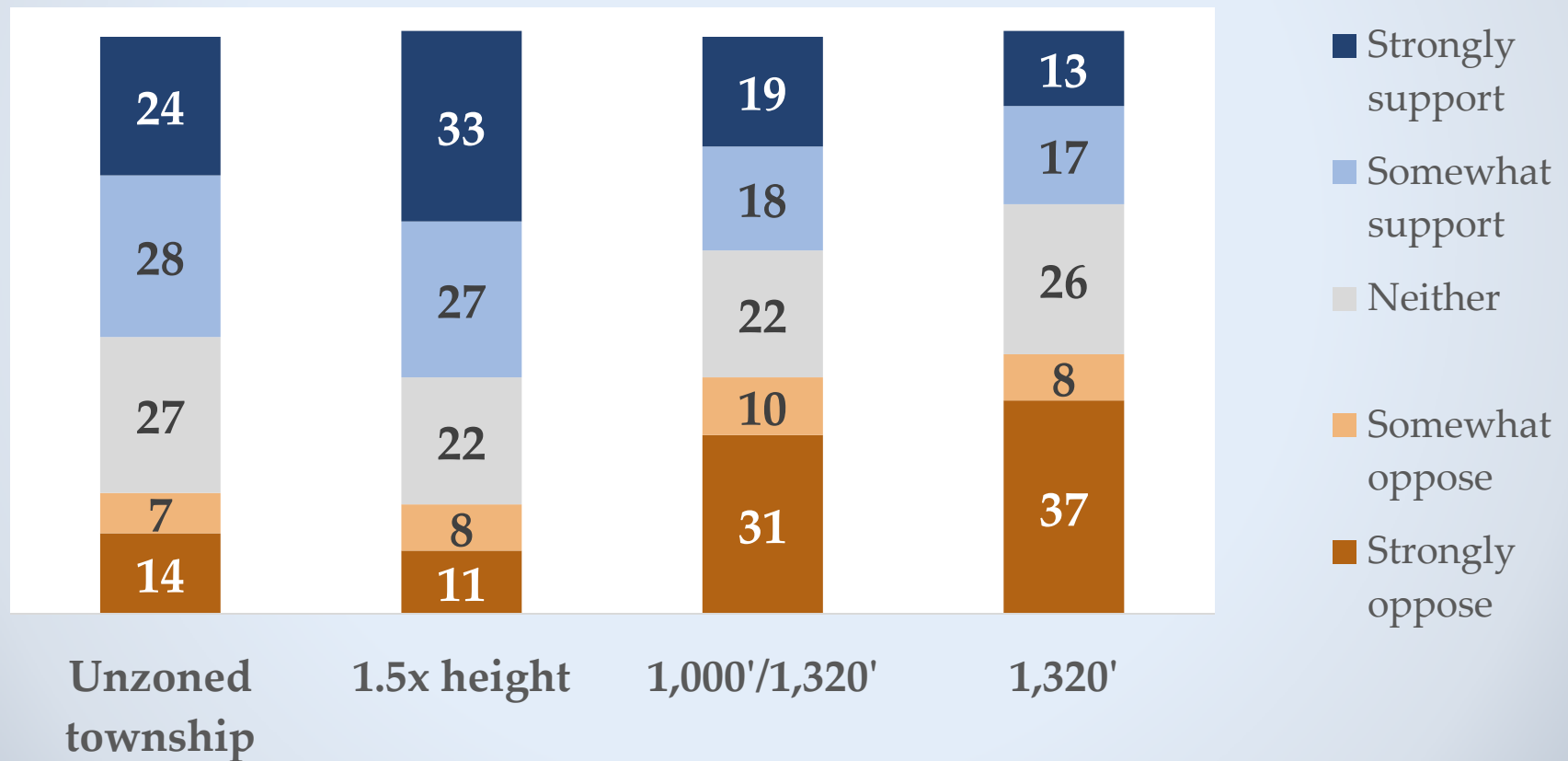
- Possible to create a legitimate zoning ordinance that minimizes or maximizes opportunities for turbines
 - Setbacks, noise, other requirements
- Your zoning ordinance can send a message
 - Open for business
 - Not interested

Example zoning ordinances

- MSU Extension
 - Sample Zoning for Wind Energy Systems (2017)
 - Michigan Land Use Guidelines for Siting Wind Energy Systems (2007)
- Dept. of Energy database
 - Look for similar types of communities
 - Includes places both with/without wind
 - <https://windexchange.energy.gov/policies-incentives>
- Shiawassee County Planning
 - Comparison charts on height, noise, setback
 - <https://www.shiawassee.net/Departments/Community-Development/Wind-Energy-Conversion-Systems>
- My website (www.closup.umich.edu/wind)
 - Just the communities which have existing windfarms in Michigan

The ideal zoning ordinance?

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

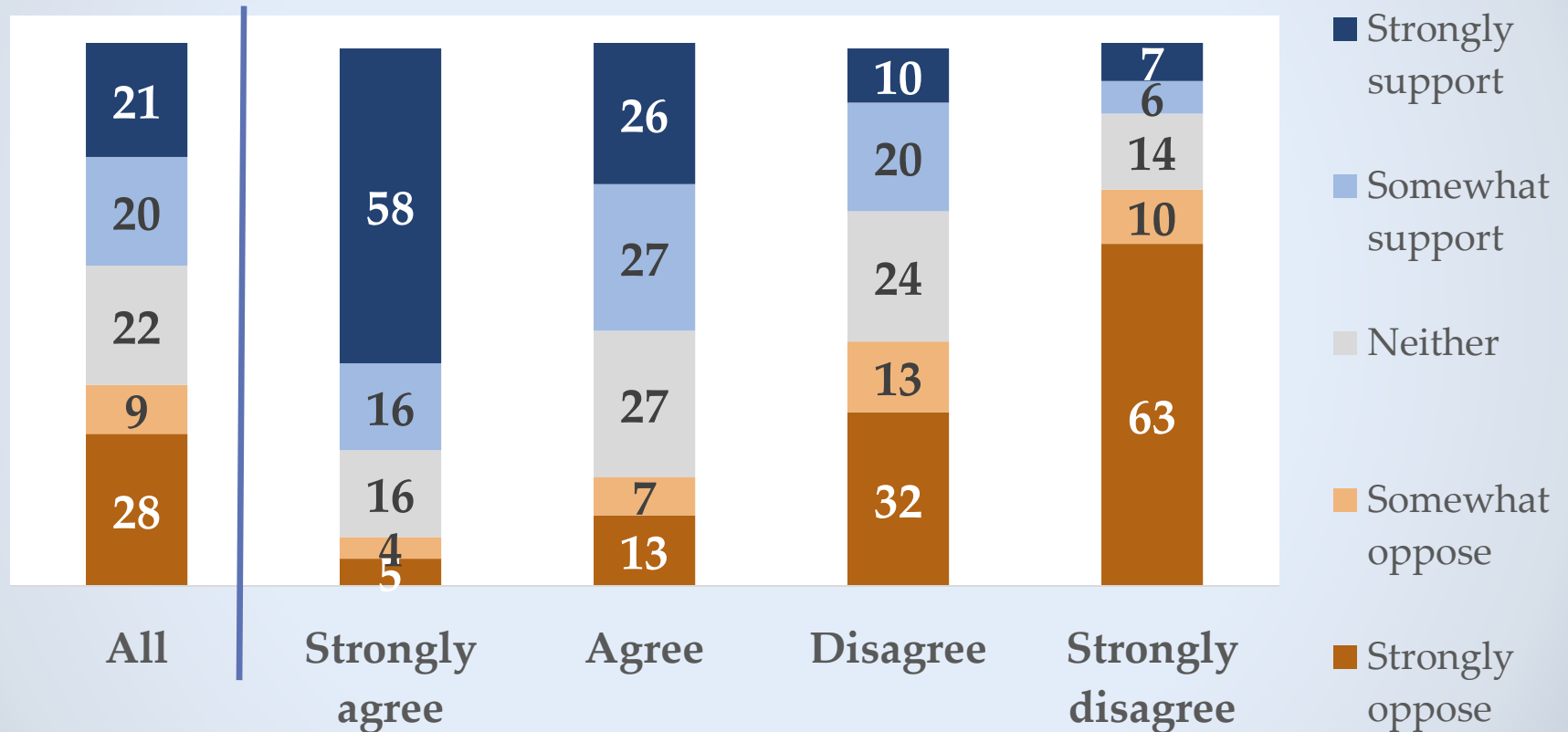


What my research suggests on zoning

- Participating vs. non-participating landowners
- Noise, flicker analysis
- Decommission plan/financial assurance
- Have an open & transparent process

The importance of process

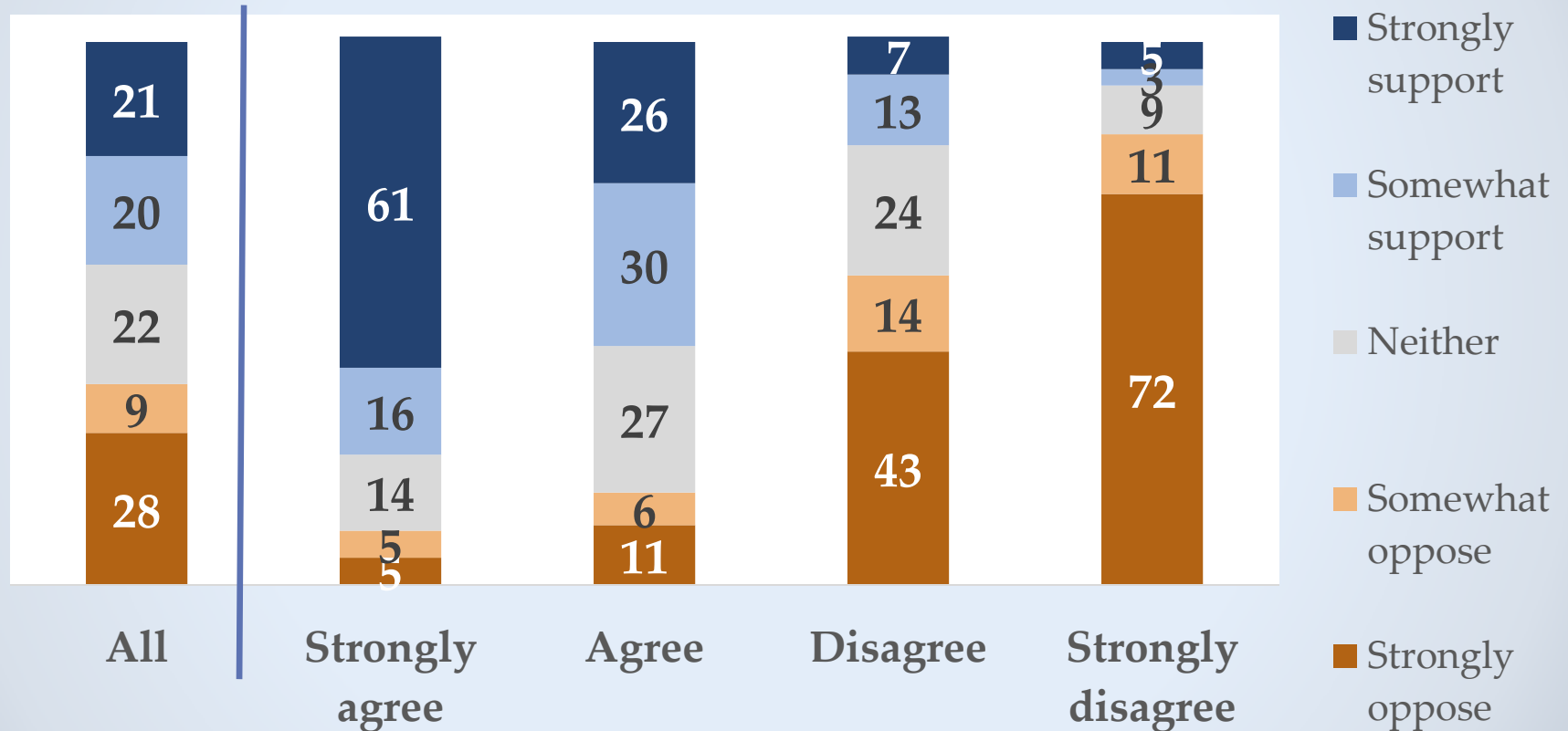
Support/oppose additional turbines in township,
by agree/disagree opportunity to participate in planning



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

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.”

Don't be afraid to ask questions

- About who benefits, business model
- Amount of tax revenue
- The impacts (noise, flicker) on specific homes
- Typical siting schemes
- Decommissioning



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