Research from Michigan’s Windfarms

Shiawassee County Planning Commission
August 23, 2017

Sarah Mills, PhD
Why am I here?

• Grant from C.S. Mott Foundation

• Helping take lessons-learned from Michigan windfarms to ensure wind development respects local community values

• To provide data-based account of opinions
  o Not relying on newspaper accounts
  o Give voice to the quiet folks
What I’ll cover

• Surveys of landowners
  o Who was surveyed?
  o Individual impacts
  o Community impacts

• General recommendations
Survey Data

When, who, and where & what did I find?
2016 Community Survey

- Owners of land assessed agricultural 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

- Direct compensation
- Type of land owned
- Being within earshot of turbines
- Attitudes about process, wind developer
Individual-level Impacts

- Noise
- Visual
- Health
- Property value
- Farm income
- Farm succession
Individual-level Impacts

Turbines create noise pollution

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

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Individual-level Impacts

Turbines create visual/aesthetic problems

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

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Individual-level Impacts

Turbines cause human health problems

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

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Individual-level Impacts

Turbines decrease nearby property values

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

![Bar chart showing the impact of turbines on property values.](chart.png)
Individual-level Impacts

Investments over 5 years: 2009-2013

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

Non-windfarm: $187k
Unpaid neighbors: $180k
Neighbors in pool: $193k
Turbines: $449k

- Home
- Outbuildings
- Drainage/Irrigation
- Equipment
Individual-level Impacts

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

% that have farm succession plan

- Non-windfarm: 57%
- Unpaid neighbors: 64%
- Neighbors in pool: 62%
- Turbines: 80%
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

- Having turbine on property is linked to additional on-farm investment, succession planning
Community-level Impacts

- Job creation
- Roads
- Township services
- Relationships with neighbors
Community-level Impacts

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

Turbines create jobs

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CLOSUP Center for Local, State, and Urban Policy
Gerald R. Ford School of Public Policy
Community-level Impacts

- Job creation
- **Roads**
- Township services
- Relationships with neighbors

**Turbines’ effect on local roads**

- **All**
  - Greatly improved: 7
  - Somewhat improved: 20
  - Neither: 60
  - Somewhat worsened: 8
  - Greatly worsened: 4

- **Paid**
  - Greatly improved: 17
  - Somewhat improved: 32
  - Neither: 40
  - Somewhat worsened: 6
  - Greatly worsened: 3

- **Unpaid**
  - Greatly improved: 4
  - Somewhat improved: 17
  - Neither: 67
  - Somewhat worsened: 9
  - Greatly worsened: 3
Community-level Impacts

- Job creation
- Roads
- **Township services**
- Relationships with neighbors

Turbines’ effect on township services

- **All**
  - Greatly improved: 18
  - Somewhat improved: 73
  - Neither: 3
  - Somewhat worsened: 3
  - Greatly worsened: 2

- **Paid**
  - Greatly improved: 10
  - Somewhat improved: 57
  - Neither: 3
  - Somewhat worsened: 3
  - Greatly worsened: 2

- **Unpaid**
  - Greatly improved: 2
  - Somewhat improved: 14
  - Neither: 3
  - Somewhat worsened: 3
  - Greatly worsened: 2
Community-level Impacts

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

Turbines’ effect on relationships with neighbors

- Greatly improved
- Somewhat improved
- Neither
- Somewhat worsened
- Greatly worsened

- All
  - 64 Total
  - 19 Greatly improved
  - 11 Somewhat improved
  - 11 Neither
  - 11 Somewhat worsened
  - 11 Greatly worsened

- Paid
  - 65 Total
  - 18 Greatly improved
  - 7 Somewhat improved
  - 7 Neither
  - 7 Somewhat worsened
  - 7 Greatly worsened

- Unpaid
  - 63 Total
  - 4 Greatly improved
  - 4 Somewhat improved
  - 4 Neither
  - 4 Somewhat worsened
  - 4 Greatly worsened
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
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

- Quality of life
- Willingness to accept new turbines

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Would they welcome wind development again?

- Quality of life
- Willingness to accept new turbines

Willingness to host additional turbines in your township

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My general recommendations

...
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
  - Especially if turbines placed on property lines
The ideal setback distance?

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

<table>
<thead>
<tr>
<th>Unzoned township</th>
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Zoning ordinance considerations

- 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 CLOSUP Wind Project

Sarah Mills, Project Manager
Phone: (734) 615-5315
Email: sbmills@umich.edu
Web: www.closup.umich.edu/wind