Tracking Renewable Energy Values, Benefits, and Concerns in Michigan: In the Media and at Public Meetings

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I. Background

This report identifies the most commonly mentioned values, benefits, and concerns associated with utility-scale wind and solar development projects, as identified over the course of a 3-month pilot project in the State of Michigan (MI). Bessette and DePew attended 11 public meetings and conducted an in-depth content analysis of over 200 print and online Michigan news media articles associated with wind or solar development in the state. As such, the values and beliefs reported here are associated specifically with 11 solar projects and 16 wind projects[1], each at different stages of development across the state. While all of the public meetings we attended occurred during the Summer of 2019—with the exception of one meeting for which we reviewed its transcript (in Kent County: 4/23/19), the news articles reported on here predominantly span the last two years (2018-2019). Due to the short duration of this project, the results described herein are not intended to be representative,

[1] See Table A-1 in the Appendix for a list of the projects reviewed.

but are instead intended to serve as a meaningful sample of the values and concerns held by residents experiencing wind and solar farm development in their communities.

It is our recommendation that efforts be taken to meaningfully address the values and concerns reported on here in current and future wind and solar development processes in Michigan. In particular, we recommend translating these results into a community-specific and resident-focused guidebook entitled, **"*What you need to know about wind and/or solar development in your community*."** Such a guidebook could be made available online or for print and distribution at public meetings or by local officials and renewable developers.

Addressing these concerns may be especially important in MI as development of utility-scale wind and solar energy systems is often quite contentious, perhaps more so than in other Midwestern states. At public meetings, across social media, and in the popular press, MI residents and representatives often laud renewables as a panacea or stamp them as a menace. Often these arguments are informed by or speak directly to individuals' deeply held values, beliefs, and fears about either renewable energy in general or the specific impacts that may be associated with local projects.

These values and concerns are sometimes informed by, but not always supported by, the results of technical analyses or economic projections. This type of affect-rich, heavily value-laden, debate is not uncommon in the public policy sphere and is critical for unearthing and articulating individuals' and communities' most important values and objectives (Arvai, Gregory et al. 2012). A rigorous accounting of these articulated values ultimately allows for a more accurate and explicit analysis of tradeoffs, and hopefully more value-focused and value-consistent policy development and decision-making processes (Bessette, Wilson et al. 2019).

In the next section we list the key findings of this project before making our programmatic recommendations in Section III.

II. Key Findings

1. The most prevalent values identified across all communities studied regard the *Noise, Taxes, Setbacks*, *Procedural Justice* and *Aesthetics* associated with wind and solar farm development.

The three most prevalent values identified overall, as well as for communities engaged in windfarm development, were *Noise, Taxes* and *Setbacks*—See **Table 1** below[2]. *Noise* was most often identified to be a concern related to wind development. In wind communities, 67% of individuals who mentioned noise identified it as a concern; only 10% of people who mentioned noise in wind communities argued that the sound generated by turbines either would be insignificant or could be ignored.

The amount of wind turbine noise (WTN) community members may experience varies and its effects on health and sleep are often disputed in the media and at meetings. Evidence suggests that while WTN likely does not present a unique health risk to individuals, it is often

[2] See Appendix, Table A-2 for a complete list of values and the Codebook (Table A-3) for a more detailed description of each value.

perceived and reported to be an annoyance (Shepherd, McBride et al. 2011, Michaud, Feder et al. 2016, Michaud, Feder et al. 2016, Tonin, Brett et al. 2016). Noise was far less commonly identified by individuals in communities undergoing solar development (n = 10).

Table 1. Most Prevalent Values Associated with Development. The 25 most prevalent values identified at both public meetings and in the media.[2] The 5 most commonly cited benefits and concerns in each column are in **bold**, with the 5 values most commonly identified as concerns shaded red and benefits shaded green. The percentage of times each value was mentioned as a benefit (% Pos) or concern (% Neg) is also shown.

		Total			Wind			Solar		
	Value	n	% Pos	% Neg	n	% Pos	% Neg	n	% Pos	% Neg
1	**Noise**	**96**	13%	65%	**86**	10%	**67%**	10	30%	40%
2	**Taxes**	**79**	**85%**	6%	**62**	**85%**	6%	**17**	**82%**	6%
3	**Setbacks**	**78**	12%	42%	**56**	9%	43%	**22**	18%	41%
4	**Procedural Justice**	**60**	15%	65%	29	28%	52%	**25**	4%	**84%**
5	**Aesthetics**	**58**	5%	**72%**	**48**	6%	**69%**	10	0%	**90%**
6	**Land Use**	55	20%	55%	28	25%	36%	**24**	17%	**71%**
7	**Size & Placement**	53	9%	40%	**45**	11%	42%	7	0%	29%
8	**Property Values**	51	20%	**78%**	42	21%	**76%**	6	17%	**83%**
9	**Decommissioning**	48	4%	23%	33	3%	24%	15	7%	20%
10	**Safety**	47	11%	55%	39	5%	56%	7	29%	57%
11	**Clean Energy**	44	**68%**	14%	32	**81%**	6%	6	33%	17%
12	**Shadow Flicker**	43	2%	**79%**	43	2%	**79%**	0	0%	0%
13	**Health**	43	12%	65%	39	13%	64%	2	0%	50%
14	**Community Economics**	43	**79%**	12%	31	**81%**	10%	11	**73%**	18%
15	**Personal Income**	42	**90%**	0%	39	**92%**	0%	3	**67%**	0%
16	**Employment**	40	**85%**	0%	25	**88%**	0%	**14**	**79%**	0%
17	**Community Cohesion**	36	6%	**72%**	27	4%	**70%**	9	11%	**78%**
18	**Cost**	36	64%	19%	17	**82%**	6%	12	**58%**	25%
19	**Wildlife & Habitats**	30	7%	60%	22	5%	59%	8	13%	63%
20	**Climate Change**	27	67%	11%	14	71%	0%	7	57%	14%
21	**Infrastructure**	26	35%	8%	16	38%	6%	8	38%	0%
22	**Quality of Life**	24	4%	**79%**	19	5%	**84%**	4	0%	75%
23	**Roads**	24	54%	17%	23	57%	13%	1	0%	100%
24	**Environmental**	23	61%	17%	15	67%	7%	7	57%	43%
25	**Local Control**	21	29%	52%	11	27%	55%	9	33%	44%

The effect of renewable development on tax revenues and the services they provide—such as trash collection, road maintenance and senior services—were often mentioned and predominantly perceived to be positive. *Taxes* were mentioned positively in 85% of instances overall: 85% positive in wind communities and 83% in solar communities. These positive perceptions are likely informed by news media accounts describing the significant tax revenues associated with renewable development, for example, those describing a 2014 increase of $9 million in taxes generated by windfarms in Huron County (Aldridge 2015) and

the total wind-related tax revenues of $37 million generated in Gratiot County since 2012 (Simpson-Mersha 2018).

Setbacks were the third most commonly mentioned aspect of wind and solar development, with 43% and 41% of individuals in wind and solar communities who mentioned them identifying them as a concern, respectively. Establishing appropriate setback distances can be a contentious process in which local renewable development often either proceeds or stalls, and discussions about setback distances can center on the desire to reduce shadow flicker and noise, protect property rights, or maintain a community's particular way of life and rural aesthetic.

Procedural Justice was the fourth most commonly mentioned value overall and the most commonly mentioned value with regard to solar farm development; 84% of the time it was a concern. With particular regard to wind development, there is scientific evidence that residents who perceive a fair planning process tend to perceive greater benefits of wind turbines, job creation, and revenues for landowners specifically, while residents who perceive an unfair process perceive significantly greater negative impacts, including visual and noise problems, reduction of nearby property values, and human health problems (Mills, Bessette et al. 2019).

Aesthetics was the fifth most commonly mentioned value by community members, 72% of the time development aesthetics were identified as a concern: 69% of the time in wind communities and 90% of the time in solar communities. While wind farm impacts have long been framed aesthetically in the literature (Pasqualetti, Gipe et al. 2002), studies examining the impacts of solar development on rural aesthetics are less prevalent, but are increasingly necessary (Jefferson 2018).

2. The benefits most commonly associated with windfarm development were to local economies and clean energy.

The impact of wind development on residents' *Personal Income* was the value most commonly perceived as a benefit (in 92% of instances; see **Table 1** above), often as a form of farmer income or form of "drought-resistant crop." These perceptions align with evidence in the scholarly literature (Rynne, Flowers et al. 2011, Mills 2015). *Employment*, i.e., development's impact on jobs and local employment, was the second most commonly (88%) perceived benefit. Indeed, we recorded no incidents of employment being identified as a concern associated with wind development; however, there were arguments that development would not drastically increase employment.

Wind development was also commonly seen to be a boon to local tax revenues, with 85% of those individuals who mentioned *Taxes* arguing it to be a benefit of wind development and only 6% identifying wind's impact on taxes to be a concern. Wind development's *Cost*, i.e., its cost effectiveness, efficiency, and affordability of the energy generated, were all typically seen positively (82% of instances) by residents.

Wind development was also commonly perceived to be a benefit to *Community Economics* (81% of instances) and both encourage *Clean Energy* development and discourage fossil fuel

use. 81% of individuals who mentioned wind development's impact on clean energy saw that particular outcome as a benefit.

3. Concerns most commonly associated with windfarm development include *Noise, Aesthetics, Property Values, Shadow Flicker, and* effects on *Community Cohesion* and residents' *Quality of Life*.

Noise was identified as a concern by residents 67% of the time it was discussed (58 out of 86 instances). In 69% of mentions, individuals identified the *Aesthetics* of wind turbines to be a concern, while only 6% of mentions regarded wind turbine aesthetics positively (or non-negatively). Individuals identified concerns associated with windfarms' fences, lights, colors, and impacts to visibility. 76% of individuals who mentioned *Property Values* perceived wind development to negatively impact those values. Only 21% of mentions identified wind development to positively affect property values. It should be noted here that the impact of windfarms on property values remains very much in dispute in the scholarly literature, though much research demonstrates no significant negative impact (Hoen, Wiser et al. 2009, Hoen, Wiser et al. 2011, Lang, Opaluch et al. 2014, Vyn and McCullough 2014).

In 79% of instances, individuals mentioning *Shadow Flicker* identified it as a concern regarding wind development, while only 2% identified it non-negatively. It is important to note that for many values, e.g., *Noise*, *Shadow Flicker, Aesthetics,* and *Health*, a mention coded as a perceived benefit should not imply that the individual believed wind development necessarily enhances these values—as shadow flicker is and is never expected to be desired, but instead simply that the individual did not believe wind (or solar) development contributes negatively toward them. These mentions are different, for example, from instances in which noise, shadow flicker, aesthetics or health were mentioned, but were not associated with either a perception of positive (non-negative) or negative impact. In those instances, in which a value was merely mentioned, it was counted, but identified neither as a benefit nor a concern.

Finally, the potential negative effects of windfarm development on *Community Cohesion* and residents' *Quality of Life* were identified more readily than that development's benefit to either. Here, that benefit could indeed be perceived to be positive. Nevertheless, 70% of resident's comments regarding the former and 84% of the latter were mentioned as concerns.

4. The benefits most commonly associated with solar farm development were economic.

Overall, less values were identified and coded with regard to solar farm development, as compared to windfarm development. Of those values associated with solar development, economic benefits dominated. *Taxes* were the most commonly perceived (82% of the time) and mentioned (14 instances) benefit, followed by *Employment*, e.g., jobs and local employment (79% of time identified positively). *Community Economic* development was also often seen positively (73% of instances) as was solar development's effect on *Personal Income* (67% of instances) and the attractive *Cost* of solar farms (58% of instances), i.e., their cost effectiveness, efficiency, and affordability of the energy generated. A recent Crain's Detroit Business article by J. Greene (2019) touches on how these benefits are perceived and discussed by two farmers in Saginaw and Eaton Counties.

5. Concerns most commonly associated with solar farm development regard *Aesthetics, Procedural Justice, Property Values, Land Use,* and *Community Cohesion.*

While values associated with the *Aesthetics* of solar farms were only mentioned 10 times, in 9 of those instances they were identified as a concern (90%), and never as a benefit. Issues entangled in these arguments include comments regarding reflection glare, fences and buffers.

The greatest number of mentions (n = 25) regarded Procedural Justice concerns, and in 84% of instances in which the process of development was mentioned it was identified as a concern. These concerns included a perceived lack of communication, a lack of opportunity for meaningful community input, doubts about the empathy of community leaders, and concerns about the language used in documentation such as zoning ordinances.

17 of the 24 mentions of *Land Use* in solar communities (71%) identified it as a concern. These concerns regarded perceptions of inappropriate use of agricultural land, solar farms affecting land quality, and solar farms being an inappropriate use of high-quality land, farmland, or flat land. Additionally, individuals identified land use concerns regarding the industrialization of both agricultural and forested land.

Finally, 5 of the 6 individuals (83%) who commented on solar farms' impacts to *Property Values* identified those impacts as concerns; for instance, in Calhoun County (Hepp 2019), and 7 of 9 individuals who identified values associated with *Community Cohesion,* argued relationships with neighbors would likely suffer from solar development.

6. Benefits most commonly associated with wind farm development in the media were to local economies and clean energy.

Media accounts (n = 109) identifying residents' values associated with wind development (n = 849) far outnumbered accounts regarding solar (n = 44) or public meetings in which either wind (n = 6) or solar development (n = 2) was discussed. In those media accounts in which wind development was discussed, values associated with the economic benefits of wind farm development were again most prevalent—See **Table 2** below. *Taxes* were identified as a benefit 47 times out of 54 total mentions (87%). *Personal Income* was identified as a benefit 31 times out of 34 total mentions (91%); *Community Economics* (24 out of 30 mentions, 80%), and *Employment* (20 out of 23 mentions, 87%), along with the benefit of wind development in advancing *Clean Energy* and reducing fossil fuel use (26 out of 31 mentions, 84%).

Table 2. Wind values in the media. Most frequently mentioned values in media accounts (n = 109) in wind communities. The table describes the total number of times the value was identified specifically as either a benefit or a concern, and the percentage of total mentions for each.[3]

Wind Values in the Media					
Benefits			Concerns		
n	**% Pos**	**Value**	**n**	**% Neg**	**Value**
47	87%	Taxes	54	74%	Noise
31	91%	Personal Income	32	82%	Shadow Flicker
26	84%	Clean Energy	29	71%	Aesthetics
24	80%	Community Economics	28	80%	Property Values
20	87%	Employment	24	65%	Health
12	86%	Cost	20	41%	Setbacks
11	79%	Roads	17	55%	Safety
10	67%	Environmental	16	73%	Community Cohesion
10	71%	Climate Change	15	41%	Size & Placement
7	20%	Property Values	14	70%	Procedural Justice
6	22%	Land Use	14	88%	Quality of Life
6	50%	Infrastructure	13	65%	Wildlife & Habitats
5	7%	Noise	10	37%	Land Use
5	14%	Size & Placement	8	73%	Trust
5	36%	Property Rights	7	78%	Air Traffic
4	11%	Health	6	43%	Property Rights
4	100%	Resource Potential	6	24%	Decommissioning
4	50%	Schools	6	100%	Pollution
3	7%	Setbacks	4	7%	Taxes
3	6%	Aesthetics	4	67%	Rural Values

7. Concerns most commonly associated with wind farm development in the media include *Noise, Shadow Flicker, Aesthetics, Property Values* and *Health*.

In those media accounts in which values associated with wind development were discussed, the most prevalent concerns identified included those associated with *Noise, Shadow Flicker, Aesthetics, Property Values* and *Health*. *Noise* was mentioned as a concern 54 times out of 73 total mentions (74%), *Shadow Flicker* was mentioned as a concern 32 times out of 39 total mentions (82%), concerns about the *Aesthetics* of wind farms were mentioned 29 times out of 41 total mentions (71%), *Property Values* were mentioned as a concern 28 times out of 35 total mentions (80%), and *Health* was identified as a concern 24 times out of 37 to make up 65% of mentions.

[3] It is again important to note, as described in Key Finding 3, that for many values, e.g., *Noise*, *Shadow Flicker, Aesthetics,* and *Health*, a mention coded as a benefit should not imply that the individual believed wind or solar development necessarily enhances these values—as shadow flicker is and will never be desired, but instead simply that the individual did not believe development contributes negatively toward them. These mentions are different, for example, from instances in which noise, shadow flicker, aesthetics or health were mentioned, but were not associated with either a perception of positive (non-negative) or negative impact. In those instances, in which a value was merely mentioned, it was coded neither as a benefit nor a concern.

8. Benefits most commonly associated with wind farm development at public meetings regard *Taxes, Procedural Justice, Trust,* and *Personal Income*.

The overall number of values (n = 192) mentioned in association with wind development at the 6 public meetings was far lower than the number of values identified in media accounts. At these meetings the most commonly mentioned benefits were associated with *Taxes, Procedural Justice, Trust* and *Personal Income*—see **Table 3** below. Taxes were mentioned as a benefit 6 times (out of 8, 75%), while the latter values were mentioned as a benefit 5 times each: Procedural Justice: 56%; Trust: 63%, and Personal Income: 100%. It should be noted that these mentions are likely skewed due to our attendance at a meeting in North Branch in which renewables supporters had organized beforehand and attended in high numbers. These mentions were coded as benefits because supporters' arguments revolved around how a fairer process, resolving conflicts of interest, and reducing bias would *encourage* wind development in the community rather than discourage it.

Table 3. Wind values at public meetings. Most frequently mentioned values at public meetings (n = 6) in wind communities.

Wind Values at Public Meetings					
Benefits			Concerns		
n	**% Pos**	**Value**	**n**	**% Neg**	**Value**
6	75%	Taxes	5	63%	Safety
5	56%	Procedural Justice	4	31%	Noise
5	63%	Trust	4	57%	Property Values
5	100%	Personal Income	4	57%	Setbacks
4	31%	Noise	4	57%	Aesthetics
3	60%	Property Rights	4	50%	Size & Placement
2	29%	Property Values	3	43%	Local Control
2	29%	Setbacks	3	38%	Fire
2	50%	Rural Values	3	60%	Community Cohesion
2	29%	Local Control	2	50%	Rural Values
2	22%	Roads	2	25%	Decommissioning
2	67%	Cost	2	50%	Water
2	67%	Research	2	50%	Shadow Flicker
2	100%	Employment	2	67%	Quality of Life
2	50%	Schools	2	100%	Birds
2	50%	Energy Security	2	67%	Malfunctions
1	50%	Health	2	67%	Legal
1	100%	Land Use	1	11%	Procedural Justice
1	13%	Decommissioning	1	20%	Property Rights
1	100%	Pollution	1	11%	Roads

9. Concerns most commonly associated with wind farm development at public meetings include *Safety, Noise, Property Values, Setbacks, Aesthetics*.

Sixty-five mentions of concerns were voiced at 6 public meetings associated with wind farms—see **Table 3** above. Of those, concerns regarding *Safety, Noise, Property Values, Setbacks,* and *Aesthetics* were most prevalent, with *Safety* being mentioned as a concern 5 times (63% of total instances), and the latter four values being mentioned as concerns 4 times each: Noise: 31%; Property Values, Setbacks and Aesthetics: 57%).

10. Values most commonly associated with solar farm development in the media were economic and split between perceived benefits and concerns.

Forty-four media accounts identifying residents' values associated with solar development (n = 271) were equally split between solar farms' perceived benefits (n = 96) and concerns (n = 98). The benefits associated with solar development were predominantly economic—see **Table 4**. Out of 17 total mentions, *Taxes* were identified as a benefit 14 times (82%). *Employment* was mentioned as a benefit 11 times out of 14 total mentions (79%); *Community Economics* (8 out of 11 mentions, 73%), and *Cost* (7 out of 10 mentions, 70%).

Table 4. Solar values in the media. Most frequently mentioned values in 44 media accounts of solar communities.

Solar Values in the Media					
Benefits			Concerns		
n	**% Pos**	**Value**	**n**	**% Neg**	**Value**
14	82%	Taxes	14	67%	Land Use
11	79%	Employment	9	41%	Setbacks
8	73%	Community Economics	8	67%	Procedural Justice
7	70%	Cost	7	78%	Community Cohesion
4	18%	Setbacks	7	88%	Aesthetics
4	19%	Land Use	4	40%	Noise
4	57%	Environmental	4	57%	Wildlife & Habitats
4	57%	Climate Change	4	80%	Location
3	30%	Noise	3	43%	Environmental
3	43%	Local Control	3	75%	Property Values
3	38%	Infrastructure	3	38%	Land Degradation
3	100%	Reliability	2	18%	Community Economics
3	100%	Pollination	2	29%	Local Control
2	40%	Safety	2	40%	Safety
2	33%	Clean Energy	2	50%	Leadership
2	67%	Personal Income	2	33%	Glare
2	100%	Pollution	2	14%	Decommissioning
2	50%	Leadership	2	40%	Precedence
2	100%	Education	2	29%	Size & Placement
2	33%	Glare	2	100%	Fire

11. By far, the most common concern associated with solar farm development in the media was inappropriate *Land Use.*

Land Use was identified as a concern by residents 14 times (out of 21 total mentions), five times more than the next most mentioned concern: *Setbacks*. Setbacks were only identified as a concern in 41% of instances in which they were mentioned. *Procedural Justice* was identified as a concern 8 times, and *Community Cohesion* and *Aesthetics* were both far more likely to be identified as a concern related to solar development than a perceived benefit; 78% and 88% of the time they were identified as a concern, respectively.

12. The only perceived benefit of solar farms mentioned during two public meetings was its ability to preserve *Rural Values*.

Over the course of two public meetings in Benton and Convis Township, only one benefit of solar farms was mentioned—see **Table 5** below. The benefit of solar farms to preserving

Rural Values was mentioned twice by separate individuals in Convis Township. It should be noted that *concerns* regarding solar farms' impact to *Rural Values* were identified 7 times in Benton Township.

13. *Procedural Justice*, preserving *Rural Values* and the threat of *Fire* were the most commonly mentioned concerns at two public meetings.

At two public meetings in Benton and Convis Township, 13 concerns were identified regarding the *Procedural Justice* of the process used to site solar farms. Seven concerns were mentioned regarding solar farms' negative impact on *Rural Values*, and 5 people mentioned concerns about solar arrays catching on *Fire*, as well as concerns regarding the capability of and equipment available to local emergency responders.

Table 5. Solar values at public meetings. Most frequently mentioned values at 2 public meetings in solar communities.

Solar Values at Public Meetings					
Benefits			Concerns		
n	**% Pos**	**Value**	**n**	**% Neg**	**Value**
2	22%	Rural Values	13	100%	Procedural Justice
			7	78%	Rural Values
			5	100%	Fire
			3	100%	Land Use
			3	100%	Land Degradation
			3	100%	Precedence
			3	100%	Quality of Life
			2	100%	Aesthetics
			2	100%	Property Values
			2	100%	Local Control
			2	100%	Safety
			2	100%	Toxicity
			2	100%	Cost
			2	100%	Water
			2	100%	Maintenance
			2	100%	Resource Potential
			1	100%	Wildlife & Habitats
			1	100%	Leadership
			1	100%	Decommissioning
			1	100%	Property Rights

14. Most prevalent concerns varied slightly throughout counties engaged in wind development.

Table 6 below identifies the most prevalent concerns identified in media accounts and at public meetings for each county engaged in wind development. While each community is unique, residents across counties identified similar concerns. *Noise* was the most commonly cited concern overall and the top concern in half of the 7 counties, most prominently in Bay, Branch and Saginaw Counties. Concerns about wind development's impacts to *Property Values* and *Safety* dominated in Muskegon County, *Shadow Flicker* in Isabella and Huron

Counties, and *Aesthetic*s in Isabella, Bay and Saginaw County. Concerns about wind development negatively impacting *Community Cohesion* were prominent in Branch, Midland and Shiawassee Counties.

Table 6. Most prevalent concerns in counties engaged in wind development.

Most Prevalent Concerns Across Counties: Wind Development									
n	**101- Muskegon**	**n**	**102- Baraga**	**n**	**103- Tuscola**	**n**	**104- Isabella**	**n**	**105- Huron**
7	Property Values	3	Tourism	4	Noise	6	Noise	4	Shadow Flicker
7	Safety	3	Tribal	3	Shadow Flicker	6	Shadow Flicker	4	Health
5	Noise	2	Aesthetics	2	Safety	5	Aesthetics	3	Quality Of Life
5	Quality of Life	2	Land Use	2	Health	3	Air Traffic	2	Noise
4	Shadow Flicker	1	Property Values	1	Setbacks	2	Safety	2	Aesthetics
4	Aesthetics	1	Noise	1	Air Traffic	2	Health	2	Setbacks
4	Setbacks	1	Quality of Life			2	Land Use	1	Safety
4	Malfunctions	1	Precedence			1	Setbacks	1	Land Use
3	Birds	1	Trust			1	Property Values	1	Property Values
3	Fire					1	Quality of Life	1	Trust
n	**107- Ionia**	**n**	**109- Branch**	**n**	**110- Bay**	**n**	**112- Midland**	**n**	**113- Shiawassee**
1	Property Values	8	Noise	14	Noise	3	Community Cohesion	4	Noise
1	Setbacks	5	Property Values	8	Aesthetics	2	Noise	4	Community Cohesion
1	Aesthetics	5	Procedural Justice	6	Property Values	2	Aesthetics	4	Property Values
1	Community Cohesion	4	Community Cohesion	6	Shadow Flicker	2	Procedural Justice	3	Safety
1	Size & Placement	4	Shadow Flicker	6	Size & Placement	1	Property Values	2	Aesthetics
1	Property Rights	4	Land Use	6	Setbacks	1	Shadow Flicker	2	Shadow Flicker
1	Water	4	Wildlife & Habitats	6	Health	1	Setbacks	2	Size & Placement
		4	Local Control	5	Procedural Justice	1	Wildlife & Habitats	2	Health
		3	Size & Placement	3	Wildlife & Habitats	1	Rural Values	1	Setbacks
		3	Quality Of Life	3	Safety	1	Quality of Life	1	Wildlife & Habitats
		3	Trust						
		3	Taxes						
		3	Land Degradation						
n	**114- Berrien**	**n**	**115- Gratiot**	**n**	**117- Saginaw**	**n**	**118- Lapeer**		
3	Noise	3	Decommissioning	8	Noise	1	Decommissioning		
3	Health	1	Noise	6	Aesthetics				
3	Pollution	1	Shadow Flicker	4	Setbacks				
2	Property Values	1	Setbacks	3	Shadow Flicker				
1	Aesthetics			3	Health				
1	Size & Placement			3	Property Values				
1	Wildlife & Habitats			3	Size & Placement				
1	Birds			3	Community Cohesion				
				3	Safety				
				2	Property Rights				

15. *Aesthetics* and *Land Use* concerns were often most prevalent in counties engaged in solar development.

Table 7 below identifies the most prevalent concerns identified in both media accounts and public meetings for each county engaged in solar development. Overall the number of media accounts and meetings were far fewer than those associated with wind development; however, in these accounts, *Aesthetics* and *Land Use* were often the most common concern. In Benton Township, residents at a public meeting were especially concerned with *Procedural Justice* and decisions made at the (Eaton) County level that were perceived to be responsible

for solar development proceeding within township borders. At that meeting, concerns about how solar farms would impact *Rural Values* dominated, but inappropriate *Land Use*—and concerns about *Fire*—were prevalent in both that meeting and media accounts.

Table 7. Most prevalent concerns in counties engaged in solar development.

Most Prevalent Concerns Across Counties: Solar Development									
n	**202- Shiawassee**	**n**	**204- Huron**	**n**	**205- St. Joseph**	**n**	**207- Eaton County**	**n**	**208- Grand Traverse**
2	Aesthetics	3	Setbacks	3	Noise	15	Procedural Justice	1	Community Cohesion
2	Setbacks	2	Land Degradation	3	Land Use	9	Land Use	1	Local Control
1	Community Cohesion	2	Decommissioning	3	Community Cohesion	7	Fire	1	Cost
1	Wildlife & Habitats	1	Toxicity	3	Procedural Justice	6	Rural Values	1	Clean Energy
1	Land Degradation	1	Noise	2	Setbacks	4	Precedence	1	Climate Change
1	Location	1	Land Use	2	Location	3	Land Degradation		
1	Toxicity	1	Glare	2	Size & Placement	3	Property Values		
		1	Energy Security	2	Leadership	2	Community Cohesion		
		1	Maintenance	1	Health	2	Safety		
				1	Safety	2	Local Control		
						2	Toxicity		
						2	Maintenance		
						2	Aesthetics		
						2	Property Rights		
						2	Quality of Life		
						2	Water		
						2	Cost		
						2	Home Values		
						2	Resource Potential		
n	**209- Calhoun**	**n**	**211- Mecosta**	**n**	**213- Genesee**	**n**	**215- Delta-Escanaba**		
3	Land Use	1	Wildlife & Habitats	2	Aesthetics	1	Aesthetics		
2	Aesthetics	1	Setbacks	1	Setbacks	1	Procedural Justice		
2	Wildlife Habitats			1	Procedural Justice	1	Land Use		
2	Environmental			1	Community Economics	1	Property Values		
1	Procedural Justice			1	Location	1	Water		
1	Rural Values					1	Glare		
1	Property Values								
1	Safety								
1	Quality of Life								

III. Programming Recommendations

Below are specific recommendations based on the results described above. We believe that these recommendations could be easily and meaningfully addressed by developing a community-specific and resident-focused guide, (perhaps) entitled: **"*What you need to know about wind and/or solar development in your community*."** This guide could identify those concerns that are mostly likely to arise from community-members, i.e., the most prevalent values identified in this report, and provide clear, straightforward and up-to-date science-based information regarding them. They are as follows:

1. Community members often identified concerns about how likely or quickly local governments could expect to be in successfully **enforcing ordinances and addressing violations** made by developers or renewable equipment owners. It may be helpful to elucidate how such processes proceed and provide clear instruction on how to initiate such a process.

2. Community members often expressed concerns about the **erudite language used in zoning ordinances** and special use permitting. It may be helpful to make available to affected community members straightforward guides explaining common ordinance language and how that language addresses the values and concerns included in this report.

3. Despite its low likelihood, the risk of **solar arrays catching on fire** was a common concern at public meetings. It may be helpful to provide materials outlining the actual and perceived likelihood of such occurrences and identify best practices and required equipment for local fire departments.

4. Concerns about whether or not **solar farms are an appropriate use for agricultural land** were numerous. It may be helpful to examine how such development affects long-term soil quality and the extent to which decommissioning returns land to a pre-development state. We also recommend examining the long-term social and cultural impacts of both existing and potential solar farms on rural communities.

5. **Noise** was the most common concern of residents living in wind communities. The technical language used to measure WTN and develop setbacks is complex and requires substantial expertise to understand. A straightforward guide describing how WTN is commonly measured would be extremely valuable to communities engaged in wind development.

6. The **economic benefits of wind and solar development** were commonly discussed at both public meetings and in the media. A report detailing these benefits, in particular total tax revenues, the number of jobs created, lease-holder revenues (perhaps estimated), and the average costs of installed wind and solar power for each project or county in MI would be useful.

IV. Conclusion

This report summarizes data collected at 11 public meetings over 3 months in 2019. Despite the short timeframe examined, it is our belief that the values and concerns identified in media accounts are not always representative of the values demonstrated by residents at public meetings, neither those values' number nor direction (e.g., whether they were raised as a concern or a benefit). As such, we urge that this project or one similar continue indefinitely, especially as solar capacity is expected to triple (Foehringer Merchant 2019) if not quadruple (Samilton 2019) across the State. Furthermore, much of what we know about the values associated with renewable development is the result of researchers examining windfarms. The results of this pilot project suggest that wind and solar development are perceived very differently by residents, and siting processes should account for different land use impacts, aesthetics, and how each technology either erodes or strengthens rural values and residents' quality of life.

V. Acknowledgement and Disclaimer

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The Michigan State University Human Research Protection Program reviewed this study (ID: STUDY00002848) and determined it to be exempt under 45 CFR 46.104(d) 2(i).

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VI. Appendix.

Table A-1. Communities and projects reviewed. Below is a list of the counties, townships, project names and developers (when identified) reviewed in this study.

	No.	ID	County	Townships	Project Name	Developers (when identified)
Wind Projects	1	101	Muskegon	Casnovia, Tyrone	Kenowa Ridge	Sempra, AEP
	2	102	Baraga	L'Anse Township	Summit Lake Wind Farm	RES
	3	103	Tuscola	Juniata, Fairgrove	Pegasus Wind	NextEra Energy
	4	104	Isabella	Denver, Wise, Vernon, Gilmore, Nottawa and Isabella, Coe	Isabella Wind	Apex
	5	105	Huron	Meade, Colfax, Chandler	Meade Wind Park	DTE
	6	107	Ionia	Odessa, Sebeway, Campbell		Leeward 42, OMERS
	7	109	Branch	Union, Matteson, Batavia, Sherwood, Calhoun		DTE
	8	118	Lapeer	North Branch		
	9	110	Bay	Monitor, Kawkawlin, Beaver, Garfield		DTE
	10	111	Delta	Fairbanks, Escanaba	Garden Wind Farm Expansion	Heritage Sustainable Energy
	11	112	Midland	Ingersoll, Mount Haley		DTE
	12	113	Shiawassee	Fairfield, Rush, Owosso, Middlebury	Maple Rapids Wind	Apex
	13	114	Berrien	Baroda, Galien, Three Oaks, Weesaw	Galien Oaks	Apex
	14	115	Gratiot	Lafayette, Hamilton, North Shade, Wheeler, Bethany, Emerson, New Haven	Pine River, Gratiot Farms Wind Project, Gratiot County Wind Park	Polaris Wind Energy, Tradewind Energy, Invenergy
	15	117	Saginaw	Jonesfield		DTE
	16	118	Lapeer	North Branch		
Solar Projects	1	201	Houghton	Houghton	Houghton High 72	
	2	202	Shiawassee	Hazelton, Venice, Caledonia	Assembly Solar Project	Ranger Power, Renergetica
	3	203	Ogemaw	Ogemaw, Churchill		Renergetica USA
	4	204	Huron			Cypress Creek Renewables
	5	205	St. Joseph	Mendon	White Pine Solar	Geronimo Energy
	6	207	Eaton	Benton	Sandstone Creek Solar Project	Geronimo Energy
	7	208	Grand Traverse	Elmwood	Expansion	Heritage Sustainable Energy
	8	209	Calhoun	Sheridan, Convis, Marshall	River Fork Solar, Calhoun Solar Energy Center	Ranger Power, Invenergy, Cypress Creek Renewables
	9	211	Mecosta	Colfax	15 Mile Solar Farm	Renergetica USA
	10	213	Genesee	Genesee		Geronimo Energy
	11	215	Delta	Escanaba		Orion
Misc.	1	301	Wayne	Detroit	DTE IRP	DTE
	2	302	Jackson	Rives	Cornerstone Energy Center	Novi Energy
	3	303	Emmett	Petoskey	Renewable Portfolio	

Table A-2. Values, overall mentions, and percentage of mentions for each value.

Overall			Wind			Solar		
Value	No.	% Total Mentions	Value	No.	% Total Mentions	Value	No.	% Total Mentions
Noise	96	6.7%	Noise	86	8.3%	Procedural Justice	25	7.5%
Taxes	79	5.5%	Taxes	62	6.0%	Land Use	24	7.2%
Setbacks	78	5.4%	Setbacks	56	5.4%	Setbacks	22	6.6%
Procedural Justice	60	4.2%	Aesthetics	48	4.6%	Taxes	17	5.1%
Aesthetics	58	4.0%	Size & Placement	45	4.3%	Decommissioning	15	4.5%
Land Use	55	3.8%	Shadow Flicker	43	4.1%	Employment	14	4.2%
Size & Placement	53	3.7%	Property Values	42	4.0%	Cost	12	3.6%
Property Values	51	3.6%	Safety	39	3.7%	Community Economics	11	3.3%
Decommissioning	48	3.3%	Personal Income	39	3.7%	Land Degradation	11	3.3%
Safety	47	3.3%	Health	39	3.7%	Noise	10	3.0%
Clean Energy	44	3.1%	Decommissioning	33	3.2%	Aesthetics	10	3.0%
Shadow Flicker	43	3.0%	Clean Energy	32	3.1%	Rural Values	10	3.0%
Health	43	3.0%	Community Economics	31	3.0%	Community Cohesion	9	2.7%
Community Economics	43	3.0%	Procedural Justice	29	2.8%	Local Control	9	2.7%
Personal Income	42	2.9%	Land Use	28	2.7%	Wildlife & Habitats	8	2.4%
Employment	40	2.8%	Community Cohesion	27	2.6%	Infrastructure	8	2.4%
Cost	36	2.5%	Employment	25	2.4%	Precedence	8	2.4%
Community Cohesion	36	2.5%	Roads	23	2.2%	Size & Placement	7	2.1%
Wildlife & Habitats	30	2.1%	Wildlife & Habitats	22	2.1%	Safety	7	2.1%
Climate Change	27	1.9%	Quality Of Life	19	1.8%	Climate Change	7	2.1%
Infrastructure	26	1.8%	Property Rights	19	1.8%	Environmental	7	2.1%
Roads	24	1.7%	Trust	19	1.8%	Fire	7	2.1%
Quality Of Life	24	1.7%	Cost	17	1.6%	Toxicity	7	2.1%
Environmental	23	1.6%	Infrastructure	16	1.5%	Property Values	6	1.8%
Local Control	21	1.5%	Environmental	15	1.4%	Clean Energy	6	1.8%
Property Rights	21	1.5%	Climate Change	14	1.3%	Glare	6	1.8%
Rural Values	20	1.4%	Fire	12	1.2%	Location	5	1.5%
Land Degradation	20	1.4%	Local Control	11	1.1%	Leadership	5	1.5%
Fire	19	1.3%	Rural Values	10	1.0%	Quality Of Life	4	1.2%
Trust	19	1.3%	Water	10	1.0%	Water	4	1.2%
Precedence	15	1.0%	Air Traffic	10	1.0%	Personal Income	3	0.9%
Water	15	1.0%	Land Degradation	9	0.9%	Reliability	3	0.9%
Pollution	12	0.8%	Resource Potential	8	0.8%	Maintenance	3	0.9%
Reliability	12	0.8%	Legal	8	0.8%	Pollination	3	0.9%
Location	11	0.8%	Schools	8	0.8%	Health	2	0.6%
Air Traffic	10	0.7%	Malfunctions	8	0.8%	Property Rights	2	0.6%
Staffing	10	0.7%	Pollution	7	0.7%	Pollution	2	0.6%
Resource Potential	10	0.7%	Staffing	7	0.7%	Staffing	2	0.6%
Toxicity	9	0.6%	Energy Security	7	0.7%	Resource Potential	2	0.6%
Leadership	9	0.6%	Birds	7	0.7%	Education	2	0.6%
Energy Security	9	0.6%	Population	7	0.7%	Home Values	2	0.6%
Legal	9	0.6%	Precedence	5	0.5%	Roads	1	0.3%

Schools	9	0.6%	Location	5	0.5%	Energy Security	1	0.3%
Birds	8	0.6%	Reliability	5	0.5%	Legal	1	0.3%
Malfunctions	8	0.6%	Research	5	0.5%	Schools	1	0.3%
Glare	7	0.5%	Tourism	4	0.4%	Birds	1	0.3%
Population	7	0.5%	Maintenance	3	0.3%	Research	1	0.3%
Research	6	0.4%	Subsidies	3	0.3%	Subsidies	1	0.3%
Maintenance	6	0.4%	Tribal	3	0.3%	**Total**	**334**	**100%**
Education	4	0.3%	Toxicity	2	0.2%			
Tourism	4	0.3%	Leadership	2	0.2%			
Subsidies	4	0.3%	Education	2	0.2%			
Pollination	3	0.2%	Bats	2	0.2%			
Home Values	3	0.2%	Glare	1	0.1%			
Tribal	3	0.2%	Home Values	1	0.1%			
Bats	2	0.1%	Traffic	1	0.1%			
Traffic	2	0.1%	**Total**	**1041**	**100%**			
Total	**1433**	**100%**						

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Table A-3. Codebook. Types, internal codes, descriptions and examples used to categorize values identified during public meetings and in media accounts. These codes, descriptions and categories were developed over the course of multiple meetings and discussions between Bessette and Depew and were jointly reviewed upon the final analysis.

Type	Value	Internal Code	Description of Value	Specific Examples
SOCIAL	Education	**1**	A project's impact on education in the community.	*"Education," "Useful for crop spraying data," "Data collection technology"*
	Noise	**3**	Impacts associated with the auditory effects of a wind or solar farm in use or development.	*"Noise," "Quiet," "Sound waves," "Feel sound waves," "Radio waves," "Vibrations," "Other unregulated noise"*
	Roads	**8**	Management and upkeep of roads during a project; wear and tear; improvement of road conditions during the project.	*"Roads"*
	Taxes	**13**	Tax revenue impacts and services provided as a result of development	*"Tax revenue," "Personal property taxes," "Tax resiliency," "Senior services," "Libraries," "Trash collection"*
	Air Traffic	**15**	The impact of development on the functioning of surrounding aircraft.	*"Air traffic," "Crop dusters"*
	Rural Values	**21**	Rural ideals and traditions of community members, in particular regarding the atmosphere of the community.	*"Rural," "Rural values," "Agricultural tradition," "Farm preservation," "Farming community," "Heritage," "Similar to marijuana dispensaries - 'what is it doing in our rural town?'"*
	Community Cohesion	**26**	The impact of a project on established intracommunity relationships and societal agreement.	*"Neighbor protections," "Community protections/safeguards," "Relationships," "Community cohesion," "Opposition instills fear," "Neighbor/Non-participant impact"*
	Quality of Life	**30**	Attributes that community members value and believe contribute to a positive lifestyle.	*"Quality of life," "Lifestyle," "Peacefulness," "Way of life," "Live in country," "Community feel," "Residential community"*
	Location	**47**	Placement of development projects en masse (separate from Size & Placement of specific turbines or arrays)	*"Location"*
	Property Rights	**65**	What an individual may and may not do with his own land, and the extent to which activities can be regulated due to the proximity of a project.	*"Property rights," "Surrounding property impacts," "Right to use one's own land," "Individual freedoms"*
	Schools	**72**	Benefits (or lack of) to a community's schools and libraries as a result of investment or revenue from a project.	*"Schools," "School," "Libraries"*
	Population	**78**	The effects of, increases, or decreases in the number of people in a given community, typically as a result of a project.	*"Population," "Reduce influx of people"*
	Traffic	**80**	Congestion of vehicles on roads (or its alleviation).	*"Traffic"*

	Tribal	**81**	Effects on nearby indigenous communities	*"Native community," "Indigenous"*
ECONOMIC	Cost	**2**	The financial cost associated with a project or its impact on the affordability of energy, cost efficiency or cost effectiveness.	*"Cost," "Save money," "Affordable energy," "Supply and demand," "County legacy costs," "Cost efficiency," "Cost effectiveness"*
	Employment	**4**	The opportunity for community members to gain work experience and earn a living.	*"Jobs," "Local employment"*
	Property Values	**7**	The effect of development on the taxable and resale value of property in the community.	*"Property values"*
	Community Economics	**25**	Income and business environment improvement experienced by the community because of a project.	*"Community economic benefit," "Economic boost," "Economic," "Direct benefit," "Local business," "Construction revenue," "Housing development," "Garbage collection," "Future city boost," "Manufacture and employ locally"*
	Tourism	**33**	The frequency in which a community experiences visitors and the quality of that experience	*"Tourism"*
	Home Values	**64**	Impact to taxable and resale value of homes or personal property	*"Home values," "Real estate," "Insurance increases"*
	Personal Income	**69**	Economic benefit (or lack of) to individual community members.	*"Farmer income," "Personal economic benefit," "Drought resistant crop"*
	Subsidies	**71**	Governmental monetary support of energy generation.	*"Subsidies," "Production tax credits"*
HEALTH & SAFETY	Health	**6**	The impacts of renewable development on residents' mental and physical well-being.	*"Health," "Dizziness," "Drowsiness," "Headaches," "Insomnia," "Depression," "Hearing harm," "Migraines," "Nausea," "Invisible waves," "Cancer"*
	Toxicity	**10**	Physical and chemical health impacts of the equipment on the land and humans	*"Toxicity," "Fumes," "Chemical and lubricant leak"*
	Safety	**14**	Physical well-being of community-members in proximity of equipment and development	*"Safety," "Safe," "Falling debris," "Hazard," "Tornadoes," "Risk," "Loose blade," "Equipment malfunction," "Blade failure," "Evacuation zones," "Emergency services"*
	Fire	**63**	Combustion possibility.	*"Fire," "Stray voltage," "Smoke," "Underground fires"*
LAND USE	Shadow Flicker	**5**	The strobe-like effect of the shadows a moving turbine's blades casts during specific times of the day.	*"Shadow flicker"*
	Land Use	**9**	Activities performed on certain types of land, and the capacity or appropriateness of the environment to support those activities.	*"Agricultural land use," "Compatible land use," "Land use," "Land quality," "Wasting farmland," "Retain farmland," "Land impact," "Land preservation," "Lake use," "Farmland," "Shorelines," "Industrialization," "Forest land," "Exclusionary zoning," "Flat land," "Property use," "Highway proximity"*
	Aesthetics	**12**	The visual impacts of a project on the landscape.	*"Aesthetic," "Fences," "Lights," "Color," "Lighting," "Block sun," "Visibility," "Dust," "Odors"*

	Setbacks	**16**	The measured distance of equipment from property lines, structures, and roadways.	*"Setback," "Buffer," "Minimum acreage"*
	Decommissioning	**18**	The removal of equipment and restoration of land once a project is no longer in service.	*"Decommissioning," "Decommission," "Recycling," "Bond," "Removal bond," "Cement removal"*
	Land Degradation	**27**	Impact of development on the land itself, both at and below the surface.	*"Land degradation," "Crop impact," "Packed earth," "Land restoration," "Underground depth," "Drainage tiles," "Leakage," "Soil contamination," "Lake bottom impact," "Increase nearby temperatures," "Destroys soil," "Runoff/flooding," "Soil testing," "Conservation"*
	Glare	**28**	Deflection of sunlight from solar arrays or turbines	*"Glare," "Reflection"*
	Size & Placement	**38**	Specific size and placement of equipment in the area; height, density, number of turbines or arrays	*"Size," "Square footage," "Number of turbines," "Placement," "Spacing," "Elevation," "Density," "Addition of turbines," "Space required," "Height"*
	Resource Potential	**68**	Capacity of wind or sun to generate energy	*"Potential," "Wind abundance," "Learn wind patterns"*
ENVIRONMENTAL	Wildlife & Habitats	**17**	Impacts to the environment where the equipment will be placed; the disruption or protection of spaces that wildlife inhabit (Separate from Birds; Bats)	*"Wildlife," "Natural habitat," "Nature," "Deer interference," "Mosquito control," "Fish interference," "Endangered species," "Wetlands," "Protect natural resources"*
	Birds	**31**	Avian interference from development	*"Birds," "Bird"*
	Bats	**32**	Bat interference from development	*"Bats," "Bat"*
	Pollination	**53**	Habitats which will impact pollination processes	*"Pollination"*
	Environmental	**54**	A project's general impact on the natural surroundings.	*"Environmental"*
	Pollution	**55**	Anthropogenic additions to the natural environment, typically affecting air quality	*"Pollute," "Clean air," "Air quality"*
	Water	**74**	Effects on nearby water sources due to a project.	*"Groundwater contamination," "Water," "Zero water consumption," "Poisoning wells and aquifers"*
ENERGY	Clean Energy	**23**	Energy produced through a process that emits considerably less greenhouse gases than fossil fuels.	*"Clean energy," "Green energy," "Reduce fossil fuel consumption," "Sustainable energy," "Alternative energy source," "Replace coal plant," "Decrease nuclear dependence," "Renewable energy," "Renewables"*
	Climate Change	**24**	Evidence of and beliefs in the consequences of anthropogenic pollutants and emissions, which cause shifts in environmental conditions.	*"Climate change," "Reduce carbon emissions," "Carbon," "No emissions," "Emission"*
	Energy Security	**39**	Assurance of national and regional access to energy.	*"Security," "Against terrorism and unusual weather," "Food scarcity," "Prevent sending kids overseas," "Energy independence"*

	Reliability	**85**	Impacts to the continuous supply of electricity and energy	*"Reliability," "Efficient," "Existing power competition," "Gas price volatility," "Consistent power generation"*
TECHNICAL	Research	**35**	The process, studying, and information available on renewable energy.	*"Research," "Lack of science," "Facts"*
	Infrastructure	**44**	Setup and capacity of grid and electrical components in a community.	*"Substation proximity," "Array on grid," "Improved technology," "No transmission," "Power purchase agreement," "Infrastructure improvement," "Power not sent elsewhere," "Amount of energy," "Grid improvement," "Grid access," "Fiber optics," "Power poles," "Demand response," "Technology," "Not technologically advanced enough," "Current interference"*
	Maintenance	**48**	Upkeep of equipment.	*"Maintenance," "Weeds"*
	Malfunctions	**77**	Equipment impairment.	*"Loose blade," "Equipment malfunction," "Blade failure"*
LEADERSHIP	Leadership	**22**	Setting examples and following those of communities who have embraced or discouraged renewable energy.	*"Leadership in renewables," "Modeling other communities," "Energy innovation," "Reduce oil dependence," "Offshore wind leader," "International progress," "Lack of equipment," "Lack of experience," "Opportunity," "Join other communities"*
	Local Control	**43**	Rights and autonomy of community members to control the decisions that impact them.	*"Community control," "Enforce conditions," "Ownership of energy," "Local distributed energy," "Anti groups from the outside," "Township power to specify requirements," "Control of density," "Workers from outside the state," "No third party power sources," "Energy used locally"*
	Precedence	**57**	Setting an example; accepting, rejecting or influencing projects that developers or communities will look to for future reference.	*"Domino effect," "Set precedent," "Future planning," "Future building," "Sustainable future," "'Unlimited acres' can't stop once started," "Like marijuana," "Goal setting"*
PROCESS	Staffing	**49**	On-site employees, their performance and qualifications	*"Little staff," "Complaint resolution," "Staff location," "Requirement," "Enforcement," "Experience," "Management"*
	Procedural Justice	**56**	Equitability and fairness in the process and execution of siting, maintaining, and decommissioning a project.	*"Procedural justice," "Lack of communication," "Awareness," "Well educated and informed input," "Community input," "Documentation language," "Inclusion," "Lack of input," "Citizen input," "Empathy of leaders"*
	Legal	**62**	Formal attorney interactions, as well as legal assurances of proper policy and procedure.	*"Legal"*
	Trust	**82**	Reliability of information and individuals making decisions, as well as the developers	*"Trust," "Misinformation," "Local officials benefit," "Biased board members," "Selfish board members," "Accountability of developer," "Developer communication"*

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