The Center for Local, State, and Urban Policy

Gerald R. Ford School of Public Policy >> University of Michigan

Michigan Public Policy Survey July 2014

Wind power as a community issue in Michigan

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This report presents the opinions of Michigan local government leaders on issues related to wind energy. It looks at the prevalence of wind turbines in jurisdictions across the state, opinions about the benefits and drawbacks of wind energy, sources of support and opposition to local wind energy, and issues regarding local regulation of wind turbines. The findings in this report are based on a statewide survey of local government leaders in the Fall 2013 wave of the Michigan Public Policy Survey (MPPS).

>> The **Michigan Public Policy Survey (MPPS)** is a census survey of all 1,856 general purpose local governments in Michigan conducted by the **Center for Local, State, and Urban Policy (CLOSUP)** at the University of Michigan in partnership with the **Michigan Municipal League, Michigan Townships Association**, and **Michigan Association of Counties**. The MPPS takes place twice each year and investigates local officials' opinions and perspectives on a variety of important public policy issues. Respondents for the Fall 2013 wave of the MPPS include county administrators and board chairs, city mayors and managers, village presidents, managers and clerks, and township supervisors, managers and clerks from over 1,350 jurisdictions across the state.

For more information, please contact: **closup-mpps@umich.edu**/ (734) 647-4091. You can also follow us on Twitter @closup

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Key Findings

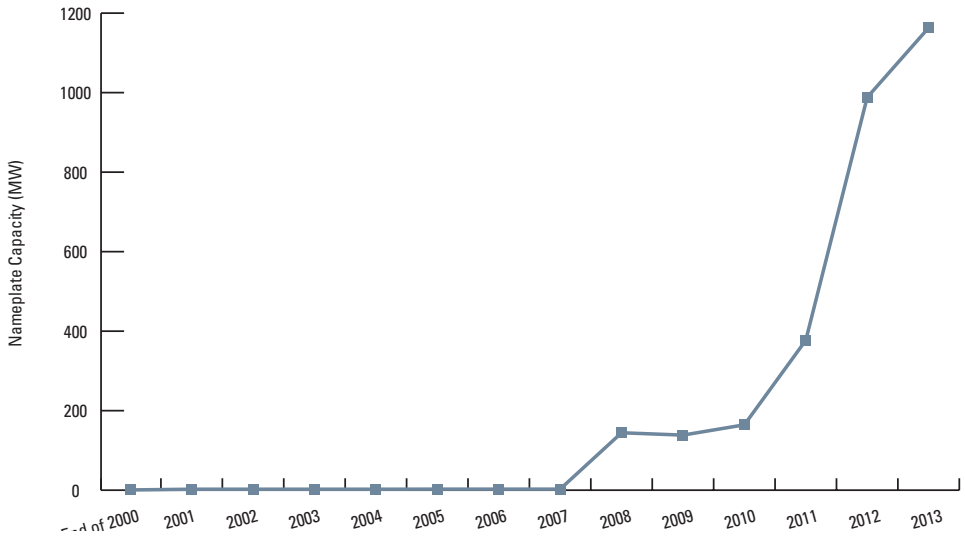
- The use of wind power in Michigan is growing. While large utility-scale turbines are currently located in just 3% of local jurisdictions, there are proposals to add them in another 7% of jurisdictions. Smaller turbines are much more common, with 25% of jurisdictions reporting either currently having these small turbines in their communities or having efforts to add them.
  - » Smaller-scale turbines are present in all regions of the state, including Southeast Michigan, where there are no utility-scale turbines.
- Even in jurisdictions that do not currently have wind turbines, wind energy is a common topic of discussion. Nearly half (46%) of the jurisdictions in the state report that wind energy has been discussed locally.
- The majority (79%) of local government officials in Michigan support additional land-based wind energy in general.
- Where wind energy is a topic of discussion, 53% of officials support adding turbines in their own jurisdictions, while 16% oppose this. However, in jurisdictions where turbines are currently sited, local officials' support for additional local wind development significantly increases, to as much as 75% in jurisdictions with utility-scale turbines currently.
- For jurisdictions where wind energy is an active topic of discussion, local leaders believe that the key factors encouraging use of wind turbines are tied to the local economy: revenues paid by the wind developer to land-owners (38%), local property tax revenue (34%), and local job creation (28%). In contrast, the primary factors that are discouraging use of turbines include potential noise and visual impacts (50%) and impacts on local property values (40%).
  - » In jurisdictions where utility-scale turbines are currently sited, local economic factors are seen as even more likely to be encouraging development of wind energy (79% say payments to land-owners are an encouraging factor), while the majority see a mixed positive and negative effect from noise and visual impacts, as well as local property values.
- Among jurisdictions where wind energy is an active issue, 33% of local officials report having an ordinance or zoning code that addresses wind turbines. Meanwhile, very few have either adopted a local moratorium or ban on wind turbines (4%), or, conversely, offered tax or other financial incentives (2%). However, the majority (68%) of local leaders believe that local governments should have a great deal of authority for regulating wind energy, while just 15% feel this way toward the state government, and 4% toward the federal government.

Background

In the last decade, the US has seen dramatic growth in electricity generated by wind turbines, driven by a number of factors. For example, engineering improvements in wind turbines and production tax credits offered by the federal government have made wind energy cost-competitive with other sources of electricity. Further, a majority of states (29) across the country have enacted renewable portfolio standards (RPS) that force electric utilities to increase the proportion of their electricity coming from renewable sources, and many have turned to wind power to help meet these mandates.

In Michigan, this last factor—state-level policy—has been particularly influential in increasing the amount of wind energy being produced. The state's Clean, Renewable, and Efficient Energy Act (Public Act 295 of 2008) established Michigan's RPS, which requires all utilities in the state to generate 10% of their electricity from renewable sources by 2015. As a result, the amount of installed wind capacity in the state rose from three megawatts (MW) at the end of 2007 (before the passage of the law) to 1,163MW by the end of 2013 (see *Figure 1*).[1] The nearly 700 utility-scale turbines in the state produce enough energy to power over 300,000 Michigan homes each year.[2] Wind energy currently accounts for over 90% of the state's renewable energy capacity, and with the addition of another 342MW of wind capacity from projects currently under construction, the state is projected to meet its 10% target by 2015.[3]

Figure 1
Installed wind energy capacity in Michigan, 2000-2013



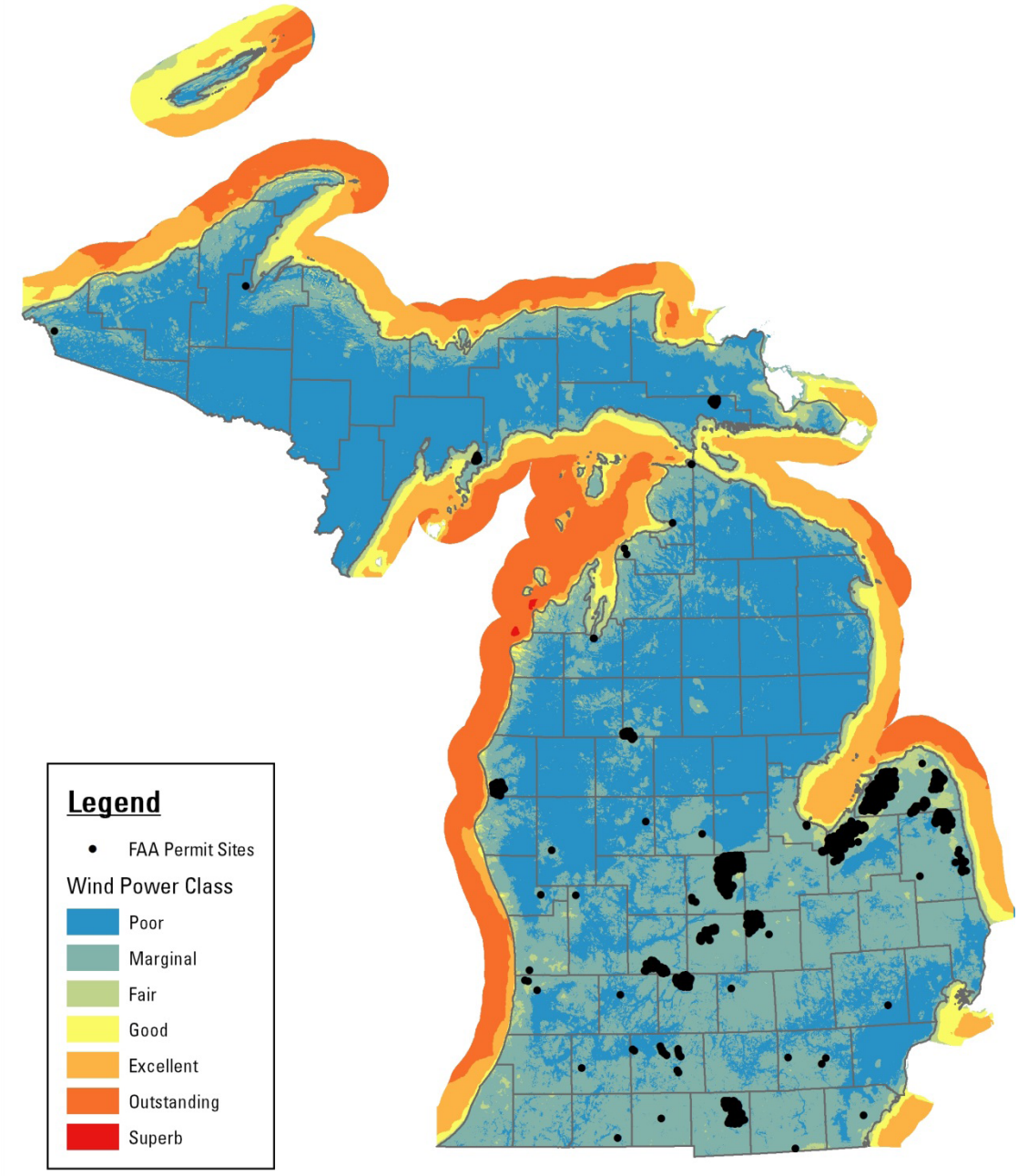
Source: US Department of Energy. (2014). *WINDExchange: Installed wind capacity*. Retrieved from http://apps2.eere.energy.gov/wind/windexchange/wind_installed_capacity.asp

The future for additional wind development beyond 2015, however, is uncertain. While the most recent wind energy projects are about 60-80% the cost of a new coal-fired power plant, these prices still include subsidies from the federal production tax credit (which applies only to projects under construction by January 1, 2014). Further, wind energy is less competitive with natural gas power plants, which are benefitting from record-low fuel prices due in large part to the recent expansion in natural gas supplies through hydraulic fracturing, or "fracking."[4] As a result, while some wind energy development is expected to continue as a hedge against uncertainty in future gas prices, it is unlikely that utilities would continue to build wind energy facilities at the recent rapid pace without additional incentive or mandate from the state.

A 2013 report commissioned by Michigan Governor Rick Snyder found that increasing the state's current mandate to 15% by 2020 and 30% by 2035 would be technically achievable given available wind resources across the state (see *Figure 2*).[5] The report notes, however, that a number of non-technical issues might prove to be obstacles. Among these are local governments passing land use regulations to block wind projects, and public opposition, as seen in the defeat of a 2012 statewide ballot proposal to increase the RPS to 25% by 2025.

To better understand how the topic of wind power is playing out in communities across the state, the Fall 2013 wave of the MPPS asked local officials a series of questions about local wind energy issues and what local regulatory actions are already underway in local governments throughout Michigan.

Figure 2
Map of Federal Aviation Administration wind turbine permits, superimposed on wind power quality



Sources:
Federal Aviation Administration (FAA) Case Info Archives
National Renewable Energy Laboratory (NREL) Wind Power Classifications at 50-meter height

Note: This includes the proposed locations for both wind turbines and meteorological towers (used to collect wind data prior to building a wind turbine) that exceed 200 ft in height. Note that some of these proposals may have been abandoned, and so structures were not erected.

Wind turbines are located throughout the state, in jurisdictions of all types

Modern wind turbines vary greatly in size, from small pole- or roof-mounted machines that can be a few feet in diameter to utility-scale turbines that stand approximately 500 feet from the ground to the tip of a 160-foot blade. While the utility-scale turbines get the most public scrutiny and media attention, local officials report that such wind turbines are currently located in only 3% of Michigan's jurisdictions (see *Figure 3, based on FAA data*). In addition, local officials report some kind of efforts by wind developers to add utility-scale turbines in another 7% of jurisdictions.

Figure 3
Federal Aviation Administration map of utility-scale wind projects built or currently under construction

Source data: Federal Aviation Administration (FAA) Case Info Archives

Though less scrutinized, smaller-scale turbines are far more common in Michigan's jurisdictions. Local leaders in 18% of jurisdictions report there are local, individual-use turbines, and another 7% have seen efforts to add this type of turbine, bringing the total to 25% of jurisdictions.

When further asked if there are current or proposed wind turbines in neighboring areas that somehow impact the respondent's own jurisdiction (for instance through noise or visual impacts, construction traffic, job creation, etc.), over a third (36%) of Michigan's local governments report their communities are directly impacted by wind energy in some way, at present.

While utility-scale turbines in Michigan tend to be geographically concentrated in areas with consistently high wind speeds and adequate access to high voltage transmission lines, local officials report there are large-scale turbines or efforts to add them in numerous regions. When small-scale turbines are added in, the geographic extent of wind energy is even more diffuse, although the Southwest and Southeast regions significantly lag behind the rest of the state (see *Figure 4*).

Wind turbines in general are found more commonly in townships, compared to what tend to be more densely-populated areas in Michigan's cities and villages (see *Figure 5*).

Figure 4
Percentage of local jurisdictions reporting any wind turbines or proposals for wind turbines in their jurisdictions and/or neighboring jurisdictions, by region

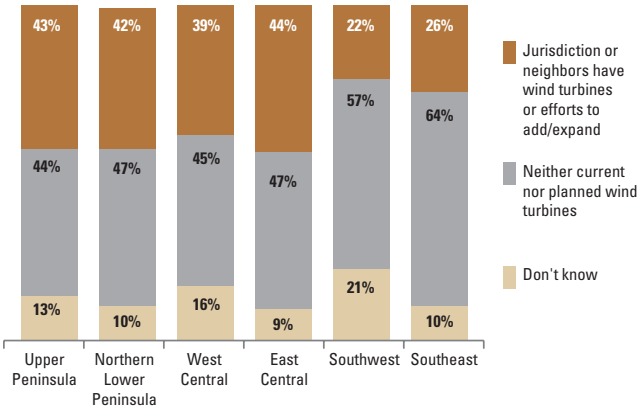
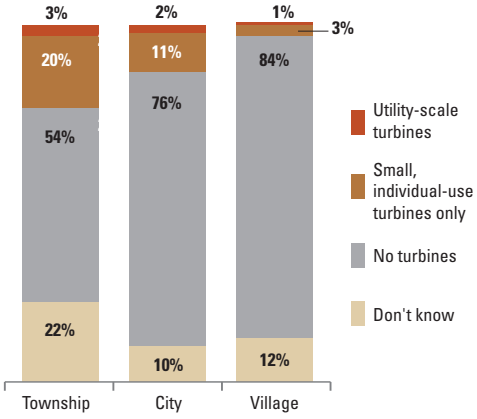


Figure 5
Percentage of local jurisdictions reporting any existing wind turbines in their jurisdictions, by jurisdiction type



Wind energy is an active topic of discussion in nearly half of Michigan's jurisdictions

Though fewer than a quarter of the state's local officials report there are wind turbines currently located in their jurisdictions, almost half (46%) say wind turbines are a topic of discussion, either in the community at large or among the local government leaders.

As might be expected, there is even more discussion about wind energy where turbines are more prevalent. For example, 50% of jurisdictions in the East Central region—where the majority of the state's large windfarms are currently located—report that wind energy is an active topic of discussion, including 21% that say it is a major issue (see *Figure 6a*). By contrast, significant percentages of jurisdictions in the Southwest (54%) and Southeast (58%) regions say wind energy is not discussed at all.

Further, across all regions, jurisdictions in areas with a "fair" or better wind power classification—that is, places that are windier—report more discussion about wind energy than places classified with "poor" or "marginal" winds (see *Figure 2* for wind classifications). In the windier jurisdictions, 64% of local leaders report wind energy is an active topic of discussion, compared to only 38% of local leaders in less-windy jurisdictions.

Wind energy is discussed least often in cities and villages, the types of places where turbines are less likely to be located. For example, only 4% of cities discuss wind energy extensively, and 67% of villages don't discuss it at all (see *Figure 6b*). By comparison, wind is an issue of discussion in half (50%) of Michigan's townships.

Still, wind energy is a topic of discussion even in communities where there are currently no turbines and no reported efforts to add turbines in the future. Among this group, 29% of jurisdictions report that wind energy is at least a minor issue and topic of discussion.

Figure 6a
Percentage of local jurisdictions reporting that wind energy is a topic of discussion, by region

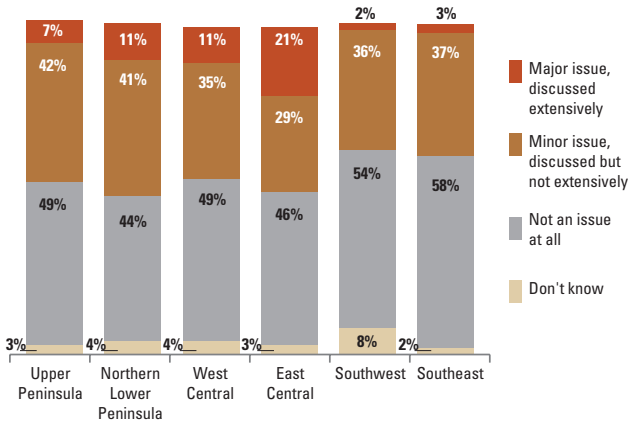
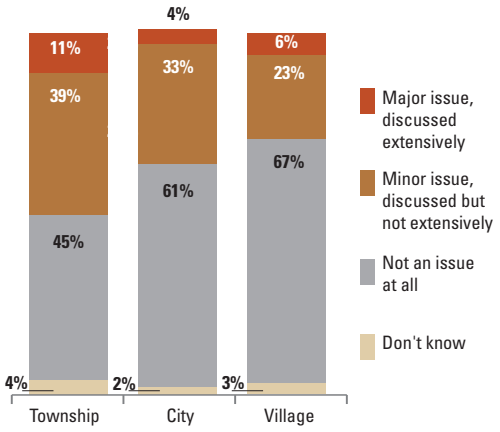


Figure 6b
Percentage of local jurisdictions reporting that wind energy is a topic of discussion, by jurisdiction type



Local officials report widespread support for wind energy in local jurisdictions, with support highest in localities where turbines are already located

As previously reported in the MPPS report on hydraulic fracturing,[6] land-based wind energy is among the most popular energy options among Michigan's local leaders. The majority (79%) of local government officials support increasing land-based wind energy in Michigan in general, while only 16% oppose it (see *Figure 7*). This support, while high, slightly trails Michigan residents. While not a direct geographic comparison, in a public opinion telephone survey conducted simultaneous to the Fall 2013 wave of the MPPS,[7] an estimated 86% of Michigan residents said they support additional land-based wind energy in the Great Lakes region in general.

Historically, though, wind energy has been portrayed as suffering from "Not In My BackYard" (NIMBY) sentiments, wherein people are in favor of windfarms in general, but unsupportive of wind turbines near to their homes. To investigate this issue in Michigan, in jurisdictions where wind energy is being discussed the MPPS further asked local officials to estimate local support for wind development within their jurisdictions specifically.

While the MPPS finds support for wind energy does tend to be lower in respondents' own jurisdictions than their support for wind energy more generally in the Great Lakes region, overall, Michigan local officials report more support than opposition for local wind turbines. Among those jurisdictions where wind is an active topic of discussion, 53% of officials say that they personally support wind turbines in their jurisdiction, while only 16% oppose it (see *Figure 8*), and 27% say they neither support nor oppose the use of wind turbines locally.

These same officials estimate there are lower levels of support amongst the majority of their council or board, as well as among their citizens, but on balance more officials report having local governments and citizens that support rather than oppose the use of wind turbines within their jurisdiction. Specifically, 36% of officials believe that the majority of their jurisdiction's council or board supports wind energy in the jurisdiction, and 14% believe that their council or board opposes it. Similarly, local officials report slightly more opposition among the majority of their citizens, though on balance they estimate net support, with 25% of jurisdictions reporting support among citizens and 19% reporting opposition.

Figure 7
Support for expansion of land-based wind energy, comparing local leaders and citizens

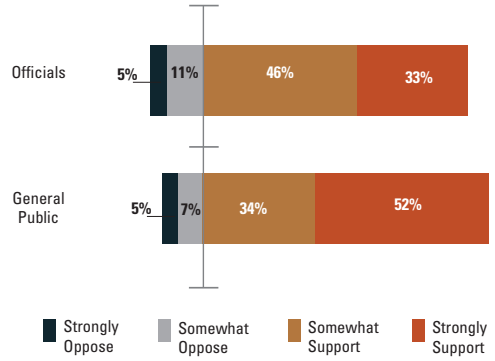
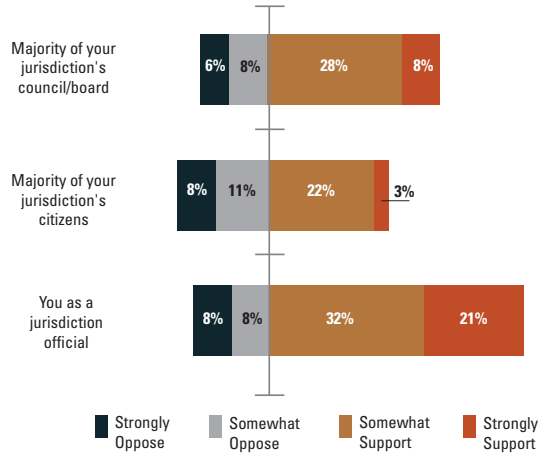


Figure 8
Support and opposition to wind turbines within local jurisdiction (in localities where wind is a topic of discussion), as reported by local official



There are a number of significant differences in local leaders' support that correspond to a jurisdiction's level of experience with wind energy. In jurisdictions that currently have either large or small turbines, or where there are efforts to add new turbines, the percentage of responding officials personally supporting local wind energy increases to 66% while opposition falls to 7% (see *Figure 9*). In contrast, in areas where there are no wind turbines and/or previous proposals to site turbines did not move forward—perhaps because the wind developer withdrew the proposal or, alternately, that they were blocked by local regulation or public opposition—only 51% of the responding officials are in support and over a quarter (27%) oppose wind energy in the jurisdiction. The officials also report similar trends among the majority of their council/board and citizenry.

Further, in comparing only those jurisdictions that currently have utility-scale turbines to all other jurisdictions where wind energy is a topic of discussion, even higher levels of support are perceived. Wind development is reported to be supported by the councils or boards in 81% of jurisdictions with large turbines, compared to 33% support in jurisdictions without utility-scale turbines (see *Figure 10*). Officials in 70% of jurisdictions where there are large turbines estimate that residents are supportive of wind energy, compared to 22% perceived support by residents in areas without large wind turbines. Additionally, in jurisdictions with utility-scale turbines, 75% of the survey respondents themselves—the chief elected and appointed local officials—support wind energy in their jurisdiction, compared to only 51% of such officials in areas without large turbines.

These high levels of support among jurisdictions with large turbines may come as a surprise given the many reports of strong local opposition to siting large wind turbines.[8] However, previous academic research on opposition to wind energy has shown that opposition increases from the time a project is announced and through the construction process, but that support grows after the wind turbines are in operation.

Figure 9
Respondent's own support and opposition to wind turbines within local jurisdiction (in localities where wind is a topic of discussion), by experience with wind

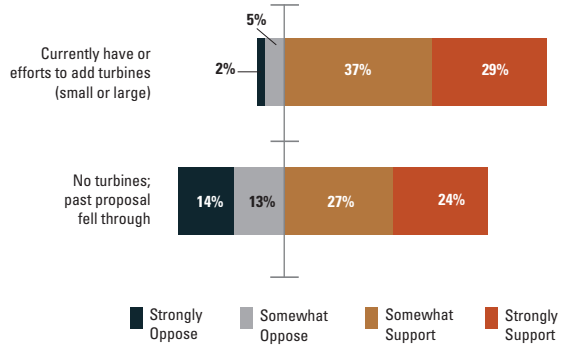
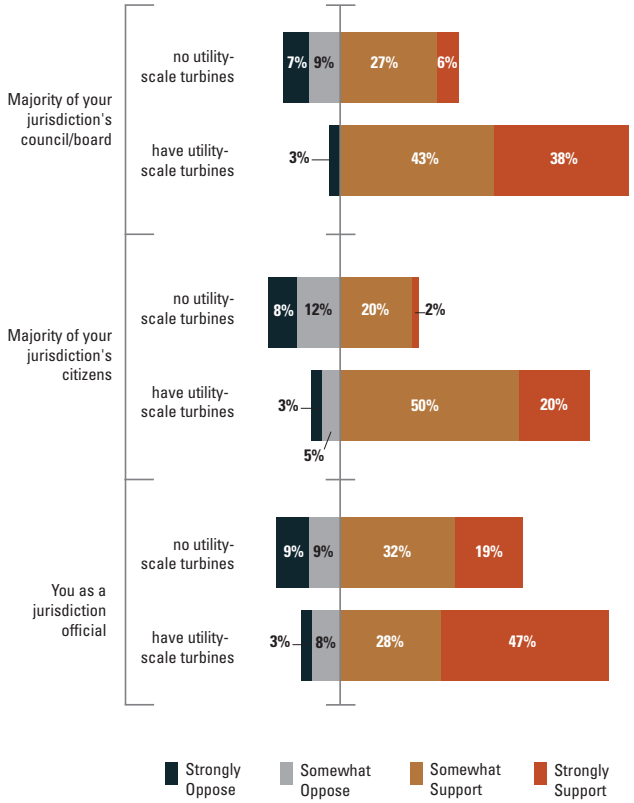


Figure 10
Perceived support and opposition to wind turbines in jurisdictions (in localities where wind is a topic of discussion), by presence or absence of utility-scale turbines



Local economic impacts are key factors encouraging wind development, while potential visual and noise impacts lead the list of factors discouraging use of wind turbines

As news reports attest,[10] the siting of wind turbines can often be contentious, and often revolves around conflicting claims about the impacts that the turbines will likely produce. To help understand what kind of issues might be encouraging or discouraging the placement of wind turbines in Michigan's jurisdictions, the MPPS presented a list of 12 factors that are commonly evoked in public hearings and asked local officials in areas where wind was a topic of discussion whether the factors were at play in their communities.

Figure 11
Factors reported to be encouraging wind development (in jurisdictions where wind energy is a topic of discussion)

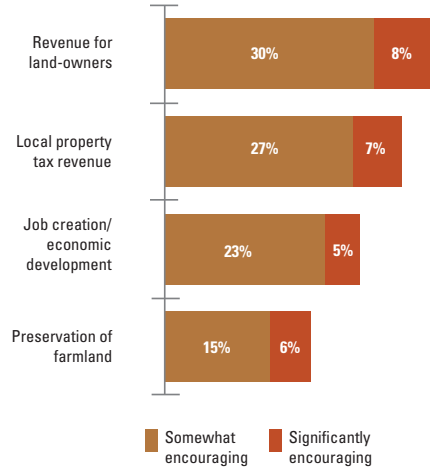
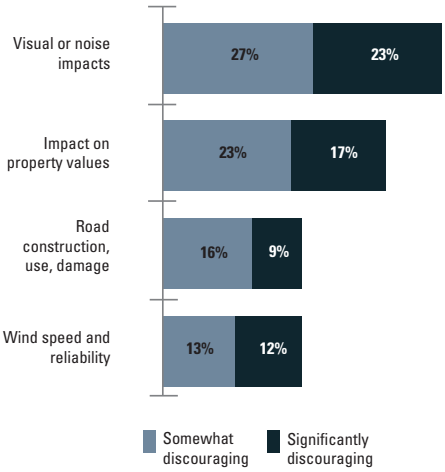


Figure 12
Factors reported to be discouraging wind development (in jurisdictions where wind energy is a topic of discussion)



The primary factors reported to be encouraging wind development within jurisdictions are largely related to local economic growth. Local officials say that revenue for land-owners who may have a wind turbine or underground electrical cables sited on their property is the most common factor encouraging wind turbines in their jurisdictions, with 38% citing these payments, including 8% who say they significantly encourage wind development (see *Figure 11*). Other local economic factors reported to be encouraging wind energy include local property tax revenue (34%) and local job creation and/or economic development (28%). Also on the list of encouraging factors, 21% of local leaders report that farmland preservation (through a combination of wind developments providing farmland owners with a drought-proof "crop" while restricting construction on land immediately surrounding the turbine) is also encouraging use of turbines in their jurisdictions.

Whereas the factors reported to be encouraging wind development are closely linked to local economic benefits, the factors that are reported to be discouraging the use of wind turbines in Michigan's jurisdictions are largely tied to aesthetic concerns. In half (50%) of the jurisdictions in which wind energy is a topic of discussion, local leaders report potential visual or noise impacts have been a discouraging factor, with 23% of jurisdictions saying that these concerns have significantly discouraged wind development within their community (see *Figure 12*). The second most prevalent discouraging factor is wind turbines' potential impact on property values, with 40% of officials reporting that this concern has discouraged the use of wind turbines in their jurisdictions. While academic studies have been largely divided on the impact of windfarms on property values—some studies show modest reductions in home values while others show no effect[11]—past research is largely in agreement that if reductions occur, they result from a combination of visual and noise impacts.

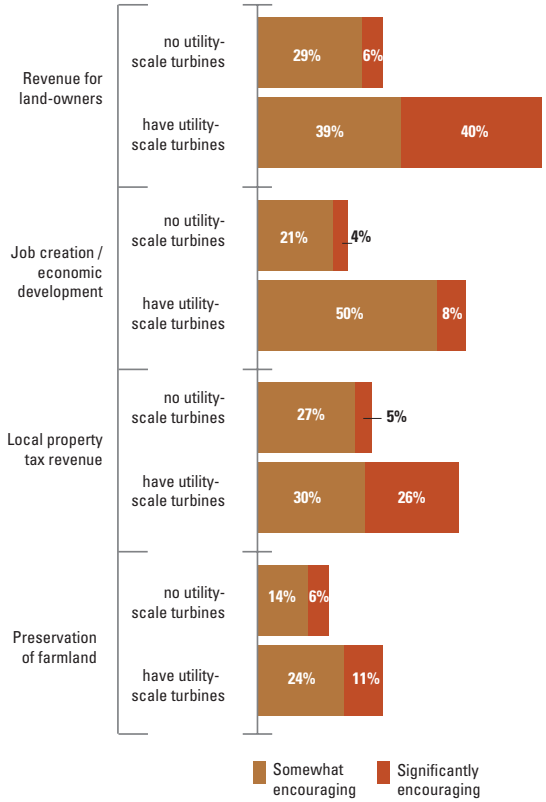
Also among the list of factors discouraging use of wind energy are use and damage of roads (25%), predominantly during the construction phase of large turbines, and wind speed and reliability (25%). This latter factor highlights the importance of geography in determining if a location is suitable for wind turbines, especially utility-scale turbines. While a quarter (25%) of jurisdictions report that wind speed is insufficient and so discourages use of turbines, 17% of jurisdictions where wind energy is a topic of discussion say that their ample wind speed is encouraging use of turbines.

Jurisdictions with existing utility-scale turbines see many encouraging factors, and few discouraging factors

When comparing jurisdictions with utility-scale turbines to those without, the MPPS finds marked differences in the factors reported by local leaders to be encouraging versus discouraging wind power. Overall, in jurisdictions where there are already large turbines, local leaders tend to see the vast majority (10 out of 12) of the potential factors presented to them as encouraging additional use of wind energy in their jurisdictions, while jurisdictions without wind turbines see the majority of factors (7 out of 12) as discouraging use of turbines.

In jurisdictions where utility-scale turbines are currently sited, officials report the local economic factors as even more likely to be encouraging adoption of wind power compared to officials in jurisdictions without large turbines. Among jurisdictions with large wind turbines, 79% of officials say that revenues for landowners are encouraging wind development, compared to 35% of officials in jurisdictions without large turbines (see *Figure 13*). Further, in localities with large turbines, 58% of officials believe that the promise of local job creation and/or economic development is encouraging wind development, compared to 25% of officials in jurisdictions without these turbines. Similarly, 56% of local leaders in jurisdictions with utility-scale turbines believe that the local property tax revenues that accrue from wind turbines encourage placement of turbines within their jurisdiction, compared to 32% in jurisdictions without large turbines. Finally, 35% of local leaders in jurisdictions with large turbines think that the potential farmland preservation benefits of wind energy encourage local turbine use, compared to only 20% of officials in jurisdictions without these turbines.

Figure 13
Factors reported to be encouraging wind development (in jurisdictions where wind energy is a topic of discussion), by presence or absence of utility-scale turbines

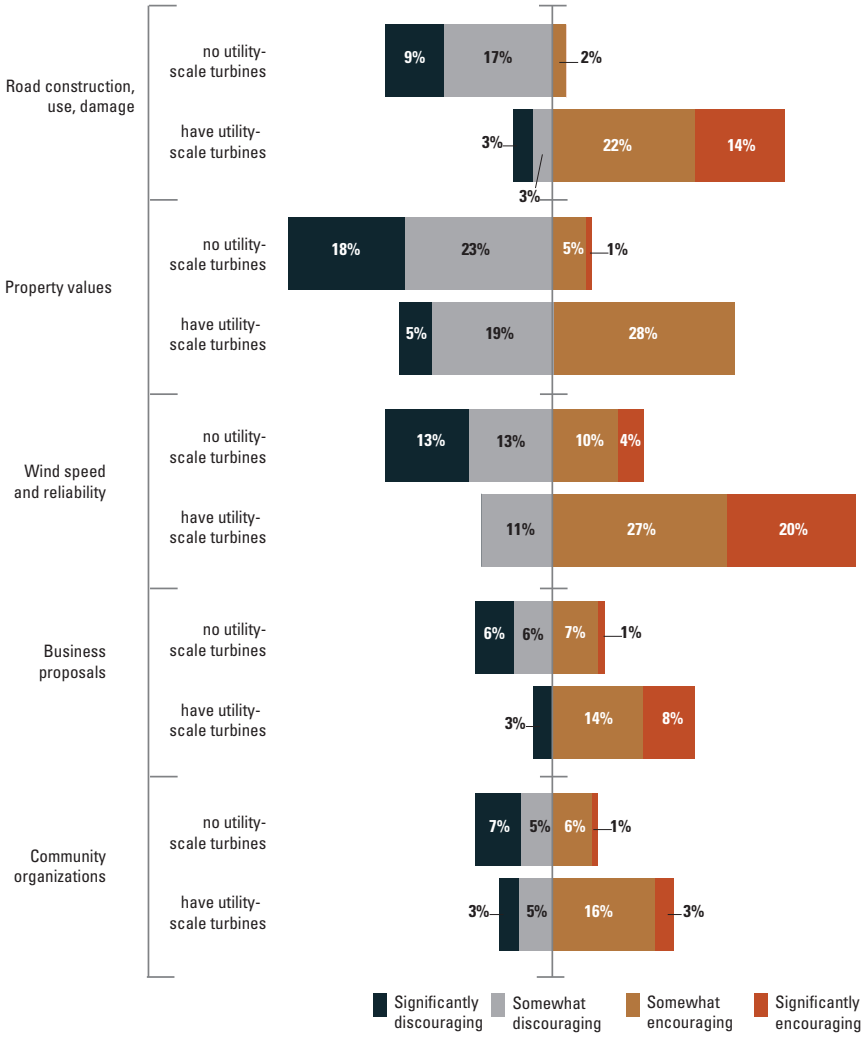


A number of factors that are generally seen as discouraging to most jurisdictions are conversely reported to encourage wind development in areas that currently have utility-scale turbines (see *Figure 14).* Most notably among these is the impact that wind developments have on roads. In jurisdictions without these large wind turbines, 26% of local officials report that adverse road impacts (e.g., use and damage during windfarm construction) are discouraging the use of turbines, while only 2% report that issues related to roads (e.g., improvements wind developers make to local roads to accommodate windfarm construction) are encouraging local wind energy. Thus, a net 24% (i.e., 26% minus 2%) of local officials in these jurisdictions without large wind turbines see impacts on roads as discouraging use of turbines. However, in jurisdictions with existing utility-scale turbines, a net 30% of officials report that issues related to roads are encouraging local wind energy.

Similarly, with respect to the issue of property values, in jurisdictions without large turbines, a net 35% of leaders report that concerns over property values are discouraging local wind development. Conversely, in jurisdictions with utility-scale wind turbines, a net 4% of officials believe that the expected impact of large turbines on property values is encouraging wind development—presumably reporting a local belief that property values are increasing or at least not decreasing as a result of the turbines in these jurisdictions.

In addition, local officials in jurisdictions without large turbines see wind speed and reliability, business proposals (or lack thereof) to add turbines, and community organizations that are active on wind energy issues as factors that discourage local use of turbines, while local officials in jurisdictions with large turbines are more likely to see these factors as encouraging additional use of turbines.

Figure 14
Factors reported to be encouraging wind development in jurisdictions with utility-scale turbines but discouraging turbine use elsewhere, by presence or absence of utility-scale turbines

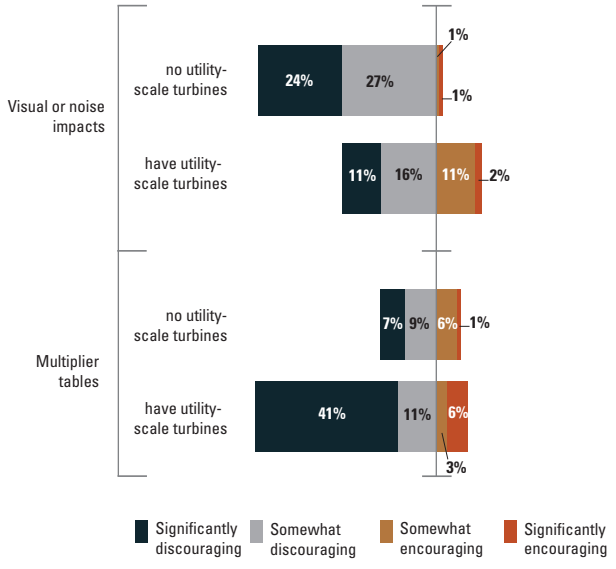


Potential visual and noise impacts are factors that leaders in jurisdictions both with and without utility-scale wind turbines tend to believe are discouraging their local use. Leaders in jurisdictions without large wind turbines overwhelmingly see these aesthetic factors as discouraging local use of wind energy, with 51% saying aesthetic impacts discourage local use of turbines while only 2% say they encourage local use of wind power (see *Figure 15*). Meanwhile, among jurisdictions that currently have utility-scale wind turbines, 52% of officials believe that the aesthetic factors have a mixed effect on local use of turbines, while 27% say they are discouraging turbines, and 13% say they are encouraging turbine use.

Recent changes to the depreciation tables set by the State Tax Commission (STC) is another factor that jurisdictions with utility-scale wind turbines believe is discouraging their local use. For background, in Michigan utility-scale wind turbines are treated as industrial personal property within the state tax code, and have their own multiplier / depreciation table for calculating tax liability. In 2012, the STC altered the multiplier table, in effect lowering the tax liability for each turbine over its usable life, and thereby lowering expected property tax revenues for host jurisdictions.[12]

As might be expected, the MPPS finds that officials in jurisdictions with utility-scale turbines (i.e., jurisdictions receiving these local property tax revenues) would see this change as detrimental compared to officials in jurisdictions without large turbines, who may not have even been aware of the change. When asked about the multiplier change, officials in 52% of jurisdictions with existing utility-scale turbines said that the tables set by the STC are discouraging wind development in their jurisdiction, including 41% who say they are significantly discouraging development. In contrast, among officials in jurisdictions without turbines subject to local property taxes, most (37%) do not know what impact the change is having, while 19% report it is not a factor in wind turbine siting and 22% think it is having a mixed effect. Note that immediately following the Fall 2013 wave of the MPPS in which local officials were asked about this issue, the STC announced additional changes to the depreciation tables, which are more of a compromise between the original table and the 2012 revision. As a result, it is unclear how local officials feel about this most recent change.

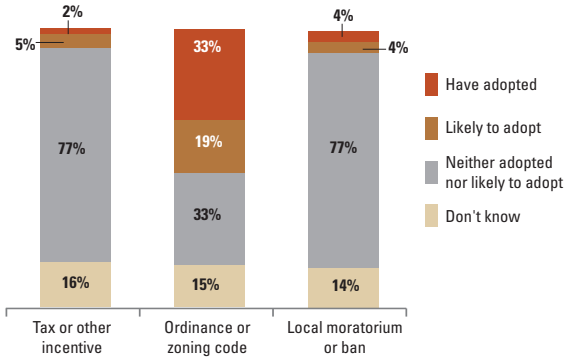
Figure 15
Factors encouraging and discouraging wind development in jurisdictions with utility-scale turbines, by presence or absence of utility-scale turbines



Note: responses for "mixed encouraging and discouraging factors," "don't know," and "not a factor" not shown

Few local jurisdictions regulate wind turbines, though local officials overwhelmingly believe it is a matter best left to local government

Figure 16
Percentage of jurisdictions that have adopted or plan to adopt policies to encourage or discourage use of wind turbines (among jurisdictions where wind energy is a topic of discussion)



Local governments in Michigan have a number of policy tools—both financial and regulatory—to either encourage or discourage wind energy development within their jurisdictions. For jurisdictions where wind energy is a topic of discussion, the MPPS presented a list of possible policy actions that local jurisdictions may have taken and found that few jurisdictions have enacted policies related to wind energy.

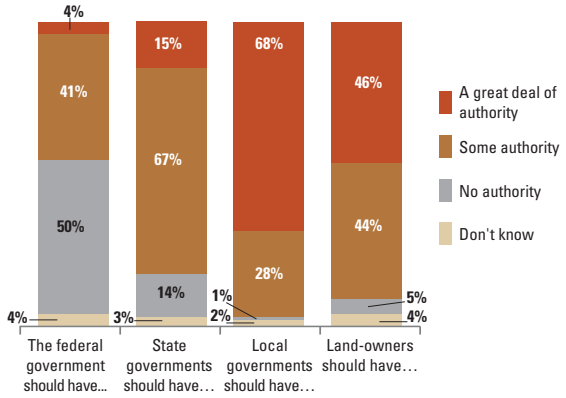
A primary tool for local jurisdictions wishing to encourage wind energy development is by offering financial incentives such as tax abatements. Though the Michigan tax code allows local governments to offer such incentives, among jurisdictions where wind energy is a topic of discussion, very few (approximately 2%) of jurisdictions report having pursued this path (see *Figure 16*). All of the local officials that reported using financial incentives are in areas with "fair" or "marginal" quality wind resources, perhaps indicating a belief they need to compensate for less than ideal wind resources in order to attract wind energy developments.

The most common policy tool is a local ordinance or zoning code, employed by 33% of local jurisdictions where wind energy is a topic of discussion. These ordinances and codes usually regulate the placement of turbines (i.e., setback distances) and noise limits at property lines or occupied structures. They might also address issues specific to construction, including impact on local roads, and/or require a decommissioning plan for removing turbines when they reach the end of their useful lives. Local wind ordinances can vary widely, especially with respect to required setback distances. Greater setback distances provide local residents with a larger buffer to accommodate visual and noise concerns, but also limit the number of turbines that can be sited within any given land area, potentially making a large-scale wind project financially infeasible.

A related policy option that local governments may pursue to discourage wind development is placing a local moratorium or ban on wind energy. Adopting such a ban, however, is very rare among Michigan local governments, with only 4% of local jurisdictions where wind is a topic of discussion reported to have adopted such a policy. While some of the moratoria/bans are in locations with "outstanding" quality wind resources—and thus where utility companies might be eager to develop windfarms—others are found where the wind resource is only "marginal," according to the wind classification maps (see *Figure 2*).

Though few local governments have opted to regulate wind energy, the MPPS finds the vast majority of local officials do believe that regulation of wind turbines should primarily be a local government function. Local officials in 68% of jurisdictions believe that local governments should have a great deal of authority in regulating the location, height, and setbacks of wind turbines (see *Figure 17*). Another 28% think that local government should have some authority, while only 1% believe local government should have no authority. In contrast, only 15% of local officials believe that the state government should have a great deal of authority for wind energy, while the majority (67%) believe the state should have some say in wind power regulation. Another 14% indicate the state should have no authority. Local officials see an even smaller role for federal government, with half (50%) indicating the federal government should have no authority in wind turbine decisions. There is mixed opinion among local officials about whether individual land-owners should have a great deal of authority (46%) or only some authority (44%) to decide rules regulating wind turbines.

Figure 17
Local officials' assessments of appropriate levels of control over decisions regarding wind turbines



The MPPS also provided local leaders an opportunity to share additional issues, beliefs, or local experiences regarding wind energy through an open-ended question. Some of the highlights include the following:

Voices Across Michigan

Quotes from local leaders regarding wind energy issues in their jurisdictions

"We have collaborated with other local jurisdictions to adopt a county-wide wind power ordinance to encourage deployment of wind energy."

"[Our] city is 99.9% developed leaving very, very little room for wind turbines that would provide energy."

"Our state government makes it too difficult and expensive to create wind farms. They are very successful in other states. They especially create jobs, preserve farmland, and help our environment."

"The [wind turbine] proposal tore our community apart."

"Land owners and utilities benefit long term, [but] local governments will be left with the task of managing the decommissioning after they have exceeded their useful life."

"Our township is not a good candidate for wind development due to topography and wind reliability."

"The City Commission limited use to areas with larger lots and setbacks due to concern about noise and concern about abandoned or failing windmills in residential areas."

"The county was identified as a viable location for wind power production. The efforts to accommodate wind turbines in the local zoning, entirely at the township level, were met with significant opposition by local residents."

"We are a farming community and a tourist community being directly on the lake. Most residents do not want wind turbines on the farm land. And the tourist businesses want to make sure that no turbines are put in the water as we have a great fishing industry."

"Wind energy support seems to be subject to very personal preferences and perceptions, many of which are due to a lack of familiarity with the terms and the actual process of producing energy from wind."

"Most people in our county don't mind having windmills --- as long as they don't have them near where they live."

"The noise levels, flashing lights at night and bird kill would be very hard to justify. Bird watching brings many visitors to our area. The turbines would devastate this part of our economy and the peaceful life we enjoy."

Conclusion

Wind turbines are becoming increasingly common in jurisdictions throughout Michigan, with a quarter (25%) of all local officials reporting either currently having turbines or having efforts to add them within their jurisdictions. Though large utility-scale turbines are much less common and tend to be concentrated in rural jurisdictions and in parts of the state with the highest quality winds, smaller-scale turbines are present in all regions of the state and in even the most urban municipalities. Consequently, wind energy is a topic of discussion in nearly half (46%) of the state's jurisdictions.

Support is high among local officials for increasing land-based wind energy within the state in general. When asked about adding wind turbines within their own jurisdictions, support drops somewhat, though there is still significantly more support than opposition for local wind energy. This support is largely tied to the perceived benefits to the local economy, though it is also tempered by concerns about potential noise and visual impacts, and impacts on property values.

Where utility-scale turbines are currently sited, local leaders are even more supportive of additional local wind development. They are also more likely to report that economic factors like payments to property owners, property tax revenues, and job creation are encouraging the adoption of wind power, and are less likely to report that the potential noise, visual, and property value impacts of turbines are discouraging their use in their communities, compared to leaders in jurisdictions without utility-scale turbines.

Few local jurisdictions in the state have enacted policies related to wind energy. However, the majority (68%) of local leaders believe that local governments should have a great deal of authority for regulating wind energy, and that the state and federal governments should have less say in regulating placement of wind turbines.

Notes

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7. This telephone survey was conducted November 6-8, 2013, simultaneous to the Fall 2013 wave of the MPPS. Random digit dialing, including both landlines and cell phones, was used to reach a representative sample of 267 residents from across the state of Michigan. The margin of error for this question is 6%, calculated at a 95 percent level of confidence.

   The survey was part of a larger Great Lakes Region public opinion poll on a range of environmental issues, funded by the Social Sciences and Humanities Research Council of Canada under the auspices of the Great Lakes Policy Research Network centered at Ryerson University in Toronto. Supplemental funds were provided by the Center for Local, State, and Urban Policy (CLOSUP) at the Gerald R. Ford School of Public Policy at the University of Michigan and the Muhlenberg College Institute of Public Opinion. The survey instrument was developed by Professor Christopher Borick of Muhlenberg College, Professor Christopher Gore of Ryerson University, and Professor Barry Rabe of the University of Michigan, and fielded by the Muhlenberg College Institute of Public Opinion.

   A report on the attitudes of residents throughout the Great Lakes region related to wind energy is available on the CLOSUP website at http://closup.umich.edu/issues-in-energy-and-environmental-policy/8/.

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12. Prior to 2013, the multiplier table set each turbine's tax liability as 100% of the original cost for the first year, depreciating over 15 years to 30% of the original cost. The change for the 2013 tax year changed the first year liability to 80% of the original cost, with depreciation over six years to 30%. After the survey was fielded, the State Tax Commission announced a revision for the 2014 tax year that is a compromise between the earlier tables: having the tax liability at 100% of the original cost for the first year and depreciating to 30% over 10 years.

Survey Background and Methodology

The MPPS is a biannual census survey of Michigan's 1,856 units of general purpose local government (83 counties, 277 cities, 256 villages, and 1,240 townships), conducted once each spring and fall. While the spring surveys consist of multiple batteries of the same "core" fiscal, budgetary and operational policy questions and are designed to build up a multi-year time-series of data, the fall surveys focus on various other topics.

In the Fall 2013 iteration, surveys were sent by the Center for Local, State and Urban Policy (CLOSUP) via the internet and hardcopy to top elected and appointed officials (including county administrators and board chairs, city mayors and managers, village presidents, managers and clerks, and township supervisors, managers and clerks).

The Fall 2013 wave was conducted from October 7 to December 17, 2013. A total of 1,353 jurisdictions in the Fall 2013 wave returned valid surveys, resulting in a 73% response rate by unit. The margin of error for the survey as a whole is +/- 1.4%. The key relationships discussed in the above report are statistically significant at the $p<.05$ level or below, unless otherwise specified. Missing responses are not included in the tabulations, unless otherwise specified. Some report figures may not add to 100% due to rounding within response categories. Data are weighted to account for non-response. Contact CLOSUP staff for more information.

Detailed tables of the data analyzed in this report—by jurisdiction type (county, city, township, or village); by population size of the respondent's community; and by the region of the respondent's jurisdiction—are available online at the MPPS homepage: http://closup.umich.edu/mpps.php.

The survey responses presented here are those of local Michigan officials, while further analysis represents the views of the authors. Neither necessarily reflects the views of the University of Michigan, or of other partners in the MPPS.

Previous MPPS reports

Fracking as a community issue in Michigan (June 2014)

The impact of tax-exempt properties on Michigan local governments (March 2014)

Michigan's local leaders generally support Detroit bankruptcy filing despite some concerns (February 2014)

Michigan local governments increasingly pursue placemaking for economic development (January 2014)

Views on right-to-work legislation among Michigan's local government leaders (December 2013)

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The **Center for Local, State, and Urban Policy (CLOSUP)**, housed at the University of Michigan's Gerald R. Ford School of Public Policy, conducts and supports applied policy research designed to inform state, local, and urban policy issues. Through integrated research, teaching, and outreach involving academic researchers, students, policymakers and practitioners, CLOSUP seeks to foster understanding of today's state and local policy problems, and to find effective solutions to those problems.

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