



Public Engagement Work Group Update

June 23, 2010

Executive Order 2009-49 charged the council with the following responsibilities related to public engagement:

- Inform, engage, and solicit feedback from the people of Michigan on the identified most favorable leasing locations
- Provide guidance to the State Wind Outreach Team (SWOT) in the team's execution of an outreach and education plan related to offshore wind energy
- Provide input on proposed and new Great Lakes wind development legislation and rulemaking as appropriate, including a process for public engagement in the decision-making and development processes

To fulfill these responsibilities the council undertook the following activities:

- Hosted three public meetings in coastal communities across Michigan to provide educational materials about offshore wind development, present the criteria used to establish the most favorable leasing locations, provide the status of legislative recommendations, and solicit feedback from the public
- Received and, in many cases, responded to public input through council meetings, e-mail, and the council's website
- Established an e-mail distribution list to inform individuals and organizations of developments related to the council and offshore wind energy
- Invited members of the SWOT to attend the council's work group meetings on public engagement. The materials developed for use at the community meetings were also provided to the SWOT for use in its outreach and education activities
- Responded to invitations from stakeholder organizations and the SWOT to speak at various events
- Provided recommendations on public engagement processes for consideration in the development of legislation and rules

PUBLIC INPUT RECEIVED BY COUNCIL

The council received public input through a variety of channels, listed below.

- Written, spoken, and survey response input received at public meetings
- Letters and electronic correspondence sent to the council, council staff, and individual council members
- Comments submitted via the council's website

This input was compiled, analyzed, and shared with the council. A summary of the input is provided below.

COASTAL COMMUNITY MEETINGS

After the council's January 19, 2010, meeting in Lansing, the council hosted three public events to provide educational materials about offshore wind energy development, present the most favorable leasing locations, and solicit feedback from the public. These meetings were held in Saginaw on March 25, 2010, Escanaba on April 14, 2010, and Muskegon on May 4, 2010.

Meeting Format and Topics

Given its charge to engage and educate the public, the council structured the meetings to provide information about offshore wind energy and the council's work and to allow for both formal and informal exchange with council members. It was important to the council that the meetings not be described or structured as traditional public hearings. The meetings were held in the evening, beginning with a one-hour open-house session for attendees to view posters featuring various offshore wind energy topics and to mingle with council members and other attendees. Following the open house, individuals from the council presented on the following topics:

- Emerging offshore wind energy trends and the impetus for creation of the council.
- Criteria recommended by the council to identify and map the least and most favorable areas for development of offshore wind energy in the state's Great Lakes. The results of this mapping work was also shared, with an emphasis on the five most favorable areas for offshore wind leasing identified by the council based on information available at that time.
- Elements of a proposed regulatory framework to establish a clear process in state law to review and permit any siting applications for offshore wind energy projects on state-owned bottomlands.
- Proposed process for public engagement in any offshore wind energy siting process.

Interspersed with the presentations were several opportunities to allow for public input. First, the council used polling software to have the attendees provide their opinions related to offshore wind energy and to share with the audience the real-time results (see Audience Polling Results section below). Second, the attendees, seated at round tables, had opportunities to discuss and respond to three questions posed by the council and to

provide any additional comments in writing. Third, the council accepted additional public comment at the end of the presentations.

Meeting Publicity

The council used a variety of approaches to publicize the meetings:

- Personal communications and distribution of flyers to local officials and various organizations and institutions involved in local, state, regional, and federal government, water resource management, business development, conservation and environmental protection, tribal issues, commercial and recreational fishing, etc.
- Postings on e-mail distribution lists, including the council’s list of subscribers and the Great Lakes Information Network, Michigan Renewable Energy Program (MREP list), Energy Tidbits (DELEG), Enviro-mich, etc.
- Media advisories, on-camera television interviews, and other outreach to local and statewide media outlets
- Meeting information and materials posted on Council’s website

Attendance and Meeting Feedback

Attendance at the public meetings varied. The largest meeting was in Muskegon, where there has been considerable interest in offshore wind energy since the announcement of the Scandia project in Lake Michigan late last fall. To gather feedback on the meeting process, format, and content, the council asked attendees to complete evaluation forms. Attendance and participation in the evaluation are summarized in Exhibit 1. Among those that completed the forms, the feedback was generally positive. Respondents indicated that they “strongly agreed” or “somewhat agreed” that:

- they learned a lot about offshore wind energy,
- the meeting was useful,
- the meeting provided meaningful opportunity to voice their opinions, and
- the meeting was conducted in a fair manner.

See Appendix A for a complete record of the meeting evaluation data.

EXHIBIT 1

Summary of Participation at Meetings

Place and date	Approximate number of attendees (not with council)	Evaluation forms received
Saginaw (March 25, 2010)	80	24
Escanaba (April 14, 2010)	40	31
Muskegon (May 4, 2010)	270+ (exceeded room capacity)	135

Audience Polling Results

The council used audience response polling software with hand-held voting clickers during the coastal community meetings to gather audience opinions and perspectives.

In addition to the benefit of creating interactive sessions by dividing up the formal presentations from the podium, the polling software was used for three reasons:

1. To give everyone equal time and opportunity to record their opinions
2. To give participants a sense of their neighbors' opinions through instant feedback
3. To provide data for council consideration and for use by social scientists in the future

Roughly 350 people participated in the polling. A complete tabulation of audience polling results is presented in Attachment 1.¹ The data collected in the meetings may be used as a baseline or benchmark by the council and by those involved in future research and policy development in Michigan. Research indicates that this approach gives participants, including those who may not be otherwise inclined to express opinions, a sense that they are contributing to the process and being heard.²

The audience was asked a series of 26 questions³ in three segments over an approximately 30-minute period during each of the meetings. The audience polling software displayed results immediately after each question. Council members and participants saw graphs that displayed the anonymous poll responses, which engaged and informed the audience.

The first series of questions asked for opinions about wind energy: how support for offshore wind energy compared to coal, gas, and nuclear power sources to meet the state's new renewable energy standard; and how turbine installation distances from shore might influence public support for wind field development. The second set of questions asked for attendee perceptions on the impacts of a wind field on a dozen important resource issues, including: fishing, boating, energy prices, tourism, aesthetics, and job creation among others. The final set of questions, which were primarily demographic in nature, was intended to allow comparisons between respondent groups.

Wind Power versus Other Energy Sources

Nearly two-thirds (65 percent) of respondents statewide indicated support or strong support for development of commercial wind farms offshore to help utilities meet the Renewable Portfolio Standard (RPS), while a minority (27 percent) opposed or strongly opposed development. In comparison, the spread was greater between support or strong support (78 percent) and opposition or strong opposition (13 percent) for onshore wind

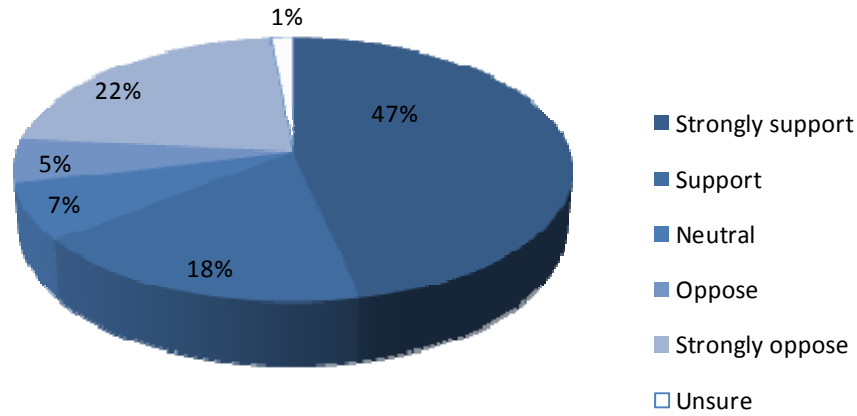
¹ Michigan Sea Grant Extension Educators Brandon Schroeder and Dr. Dan O'Keefe performed audience response software management and compiled the response data for the council. Not all respondents answered all the questions.

² In a recent survey of instructors who have used this type of software, 94 percent either agreed or strongly agreed with the claim, "Clickers increased student engagement in the classroom," and 74 percent of the faculty respondents agreed or strongly agreed with the claim, "Clickers have been beneficial to my students' learning." Students similarly reported that the use of clickers increased their engagement, involvement, and interaction. Robert Kaleta and Tanya Joosten, *Student Response Systems: A University of Wisconsin System Study of Clickers*, *Educause Center for Applied Research Bulletin* 2007, Issue 10 (May 8, 2007): 4–6.

³ The questions were adapted from the research of University of Delaware professor Jeremy Firestone et al. by Michael Klepinger, the meeting facilitator, and approved by the council's public engagement work group.

farm development. Respondents were asked the following question: “To what extent do you support development of commercial wind farms offshore to help utilities meet the Renewable Portfolio Standard?” Answers are illustrated in Figure 1 below.

EXHIBIT 1
Support for Offshore Wind Farms to Help Meet RPS



Answer Option	Number Answered	Percentage
1. Strongly support	157	47%
2. Support	60	18%
3. Neutral	23	7%
4. Oppose	18	5%
5. Strongly oppose	74	22%
6. Unsure	5	1%

When offered a choice between offshore wind power development and either coal, nuclear, or natural gas power plant development near the shoreline, support was consistently greater for offshore wind.

Preferences and Location of Residence

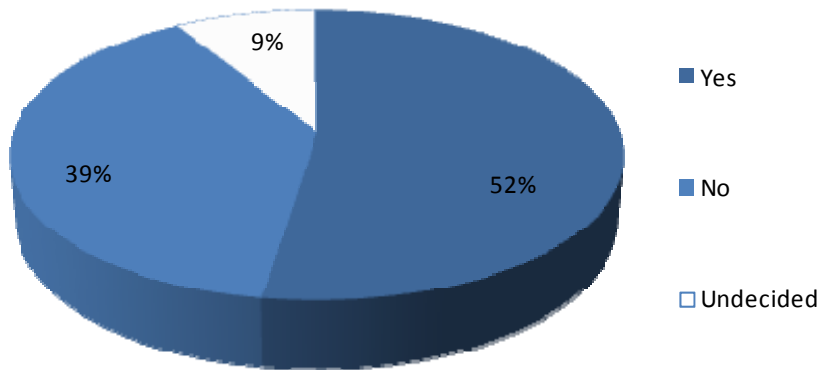
The most striking differences of opinion and perceptions about offshore wind power development among meeting participants were found between coastal and inland residents. Coastal residents (121 respondents, or roughly one-third of the audience, aggregated statewide) were identified as those respondents who answered “Yes” to owning a primary and/or secondary place of residence within sight of the Great Lakes horizon. Coastal resident answers differed significantly from inland resident answers for all questions included in the statistical analysis. In all cases, the median response value was lower for coastal residents when presented with a scale of possible answers ranging from 1 (strongly benefit or support) to 5 (strongly harm or oppose). This trend was most pronounced in answers to the initial question about support for offshore wind to fulfill Renewable Portfolio Standard goals: the median score for coastal residents was 4, while

the median score for inland residents was 1, indicating that Inland residents support offshore wind development while Coastal residents do not.

Visual Preferences at Varying Distances

Participants were given a set of three photographs and asked to indicate a level of support for each offshore wind development depicted. Photo A showed a field of several dozen turbines (of the size currently being installed around the world) located six miles offshore, Photo B showed the same field at a distance of 13 miles and Photo C showed the field 20 miles from shore. Respondents were asked the following question: “If a proposed wind project appeared as shown in Photo A, would you support the project?” Responses are illustrated in Figure 2 below.

EXHIBIT 2
Preference for Offshore Wind Turbines Located Six Miles from Shore



Answer Option	Number Answered	Percentage
1. Yes, I would support it.	179	52%
2. No, I would oppose it.	129	39%
3. Undecided.	9	9%

All three images presented a “clear day” view from an average person’s height (elevation 5.25 feet), which provided respondents with a common reference from which opinions and perceptions could be gauged. Not surprisingly, distance from shore affected support: 52 percent said they would support an offshore wind development like the one in Photo A, 60 percent said they would support a development like the one in Photo B, and 70 percent would support a development like the one shown in Photo C.

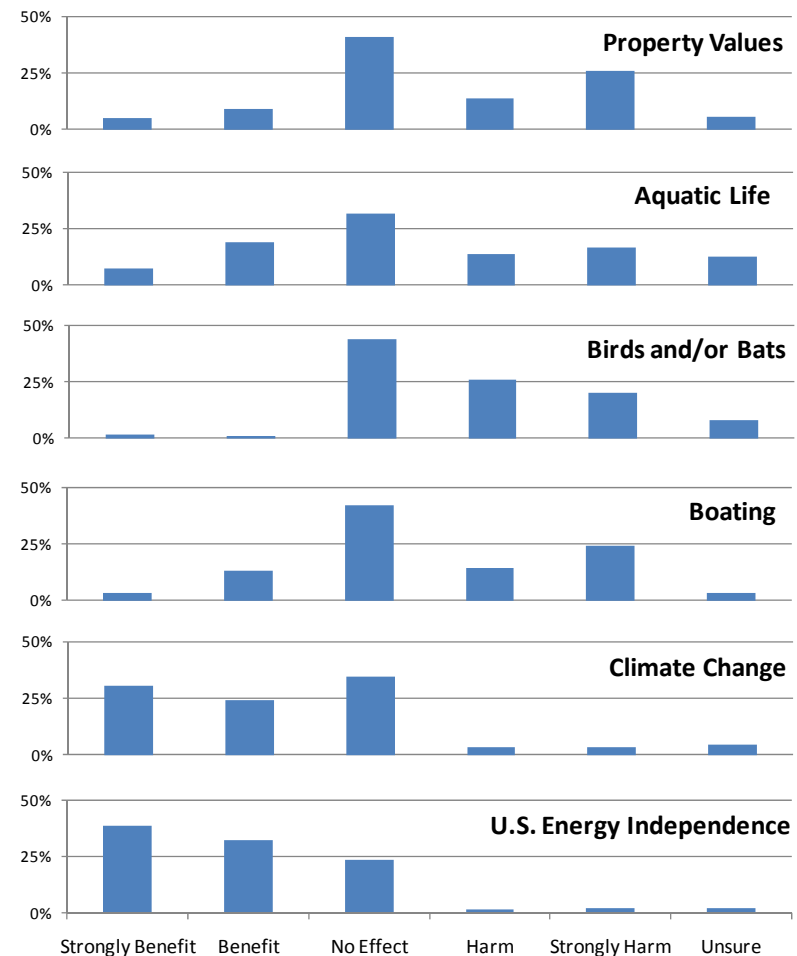
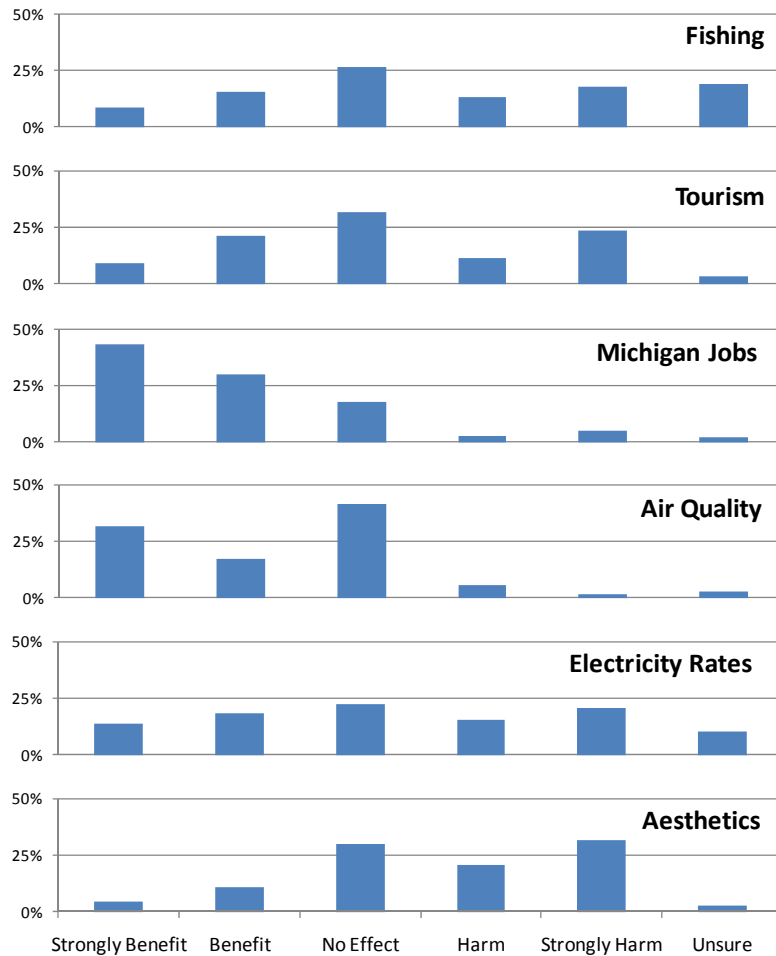
Perceptions: Positive and Negative Impacts of Offshore Wind Energy

Next, the audience was asked to consider Photo A (showing turbines six miles from shore) while they provided responses to a series of 12 questions about perceived impacts of offshore wind development. They were asked to use their best judgment when responding, even if they had few facts or experiences to go by. Each question in the series began with the phrase, “How do you think this project would affect _____?” A

scale of one (strongly benefit) to five (strongly harm) was offered. Participants were asked about effects on fishing, tourism, jobs, air quality, electricity rates, aesthetics, property values, aquatic life, avian life, boating, climate change, and energy independence.

For some of the topics, including fishing, tourism, electricity rates, boating, and aquatic life impacts, the responses are quite evenly distributed across the benefit-harm scale. Other topics, however, show a stronger public perception of negative impacts (e.g., aesthetics and avian impacts) or a stronger perception of positive impacts (e.g., jobs, air quality, climate change, and energy independence). The graphs in Exhibit 3 highlight these response trends.

EXHIBIT 3
 Aggregate Participant Responses, Coastal Community Meetings



Demographics and Opinions About the Meeting

Though responses were collected “anonymously,” that is, data could not be attributed to individuals in the audience, each remote-control clicker logged a unique code in the software so that groups could be created. Of the 359 people who logged on to the system, 327 indicated whether or not they had a coastal residence with a view of the Great Lakes horizon. A total of 121 people (37 percent) were grouped as “coastal residents” and 206 people (63 percent) were grouped as “inland residents.” Polling data drawn from a valid statistical sample (rather than self-selected group) will be needed to get a more accurate idea of local or statewide opinions and perspectives on offshore wind.

Finally, after responding to questions about coastal land ownership and the amount of time spent at the shore, participants answered two questions about the council’s meetings. When asked, “Compared with how you felt before this meeting, how have your opinions of offshore wind on the Great Lakes changed?”, 40 percent said they were more supportive, 41 percent said their opinions had not changed, and 15 percent said they were more opposed. When asked, “Do you agree or disagree with this statement: ‘The Great Lakes Offshore Wind Council is acting openly and transparently.’?”, a majority of meeting participants (74 percent) agreed with the statement, a few had no opinion (8 percent), and a minority (18 percent) disagreed.

Community Meeting Roundtable Discussion Sheets

At the community meetings, the council distributed a handout to encourage discussion among the people at each round table. Council members seated themselves at the tables among the participants. The handout posed three questions and left space for written comments. One question asked how the state could encourage renewable energy development through policies and incentives; another question asked for suggestions about “anything else the council should consider” in completing its work, and a third question asked if the council’s 22 mapping criteria “seem reasonable and comprehensive for new statewide policy and planning.” Below, a summary of the input received on the “reasonable and comprehensive” question is presented, followed by excerpted audience suggestions and questions for the council.

Q: You just learned about the council’s exclusion areas and buffering criteria. Do they seem reasonable and comprehensive for new statewide policy and planning?

YES (count = 76)

This group of respondents wrote the word “yes” or were otherwise unequivocal in their replies. Examples include one-word answers and phrases such as: “very;” “they do;” “I think they are.”

NO (count = 21)

This group of respondents wrote the word “no” or were otherwise unequivocal in their replies. Examples include one-word answers and phrases such as: “absolutely not;” “they are too restrictive;” “they are not comprehensive;” “I don’t think so.”

INDISCERNIBLE (count = 26)

This group entered comments that did not make clear whether they agreed or not.

Examples include phrases such as: “yes, as far as they go;” “reasonable, but;” and “maybe.”

NO RESPONSE (count = 24)

This group did not respond to the question.

Following are unique ideas and questions (not addressed in the council’s presentations) excerpted from the table top discussion sheets:

- “Are you aware there is an important butterfly migration in northern Lake Michigan, perhaps near the Delta [WRA] area?”
- “Small boats do not have radar to avoid towers in a dense fog.”
- “Will counties with affected viewsheds be allocated an extra portion of revenues?”
- “The people that live on the shores of the Great Lakes do not own the lake.”
- “Get rid of fossil fuel and nuclear subsidies.”
- “GLOW should consider cost.”
- “No mention was made of offshore ice...”
- “Need to have wind in less than 5 years, get funding so you can train people to work on turbines.”
- “We need to see costs for new wind vs. new coal or new nuclear.”
- “Both legislators and the general public need more opportunities to hear this information.”
- “Permitting process is too long.”
- “Keep supply chain in Great Lakes region.”
- “Council should share information with public and conduct statewide straw votes with a larger population than what shows up at these meetings.”
- “Provide tax incentives/grants to promote research and development.”
- “Who pays for angler who does not catch fish in wind farm areas?”
- “I was worried about a company coming into an area and bulldozing a project through that doesn’t meet official goals.”
- “200 rusting hulks would not be conducive to tourism.”
- “Only those with proven experience should be allowed to touch Lake Michigan.”
- “No permitting for foreign, inexperienced companies.”
- “Shoreline counties need veto power.”
- “Why are we not requiring the new gearless [low oil, low maintenance] turbines?”
- “Interior of farm would produce higher fish populations because of reef effect, could boaters go inside?”
- “Need a realistic future cost of various electrical energy options.”
- “What about repairing turbines in the winter?”

- “It would be less confusing and less costly for business to know up front if your GIS maps have more info and not let them start the process to have a ‘gotcha’ moment.”
- “Reduce the red tape.”
- “Get unions involved.”
- “You didn’t address the responsibility for the cost of decommissioning.”
- “Begin an education program with high school students.”
- “Even the playing field between fossil fuel energy production and solar and wind.”
- “Increase incentives for offshore.... I refuse to pay more for ‘green’ energy.”
- “Use renewable energy as a tourist and industry attraction.”
- “Increase our RPS. Adopt a feed in tariff.”
- “What about possible water contamination from machine oil?”
- “Thank you for your work”

CORRESPONDENCE RECEIVED BY THE COUNCIL

A Note about the Scandia Aegir Project in Lake Michigan

The proposal for an offshore wind energy development in Lake Michigan, the Scandia Aegir project, was the subject of considerable press and public comment after the developer’s announcement of the project in late fall 2009. The media and public response to this project was likely heightened because it was the first time a proposal for Great Lakes offshore wind energy development was made public. Several dozen members of the public sent very thoughtful messages to the council, most opposing the project, before the council responded to individual letters and then posted a notice on its website to clarify that the council was not charged with providing input on or deciding upon specific proposals. The Scandia Aegir project—while not directly related to the council’s role to provide guidance and recommendations on statewide policy and planning—continues to influence current levels of public acceptance of offshore wind energy development, particularly in coastal communities adjacent to the site of Scandia Aegir’s Lake Michigan proposal. It has also accentuated the need for new law to clarify state offshore wind development policy and public input processes.

Correspondence Received

The council received—by U.S. mail, e-mail, and website input form—approximately 300 comments and questions about offshore wind energy, the Scandia Aegir project, the council’s work process, and the council’s policy recommendations.

As might be expected, many people expressed support or concerns related to offshore wind energy development, and some did not comment on the substance of the issues, but rather had questions or comments regarding the process. Individuals who supported or opposed offshore wind energy development usually had more than one reason for their views. The major themes from the comments are summarized in Exhibit 4, along with excerpts from the correspondence. It is important to emphasize that the Scandia Aegir project was the impetus for the majority of the comments received and, in particular, the comments expressing opposition to or concerns with offshore wind energy. After an

initial backlash against the proposal, however, the council began receiving comments in support of offshore wind energy development in Michigan.

EXHIBIT 4
Major Themes from Public Correspondence

Common reasons stated	Example excerpt from comments
Support for offshore wind energy	
Job creation/economic opportunity	I was born and raised in Muskegon, Michigan. We have the highest unemployment rate in the nation. Not only do we want wind power....we need it. Muskegon is a wonderful place to live, and I can't stand the idea that we might go under. We NEED this in our area.
Clean, renewable energy	The lakeshore is an ideal location for producing needed energy and SHOULD BE USED. Personally, I would like to look out offshore and see windmills, knowing that they are producing clean energy rather than adding more coal/gas plants. Everywhere we look these days we hear the NIMBY wail. Well, it is time to get over it if it means not getting another ugly and polluting coal, gas or nuclear plant.
Concerns with offshore wind energy	
Opposition to Scandia/Aegir project	I am writing to voice my opposition and request your consideration in denying development of wind-energy projects currently being targeted for Lake Michigan. Your support in keeping Lake Michigan pristine and undisturbed is greatly appreciated and needed.
Tourism impacts	Long-term negative impact on tourism. Tourism, currently a primary source of jobs, will undoubtedly be negatively impacted. Families come to Western Michigan for its natural beauty—nothing is beautiful about large wind turbines next to the shores.”
Habitat impacts	The rapidly spinning blades would kill much of the avian life in the area, including bald eagles, cormorants, geese, ducks, monarchs, and other birds and wildlife.
Property value impacts	The real estate market for high value Lake MI property will be seriously damaged and will be set back decades if a wind farm as illustrated in the press recently is allowed to go ahead.
Performance or other effects of wind turbines (power output, oil leaks, flicker and noise impacts)	The noise and "flicker" effects that will most certainly result from the placement of these turbines. The flicker effect would turn the sun into a giant strobe light most afternoons until late night sunset (as late as 10:00 P.M. in the summer months).
Use of the Great Lakes for private purpose/gain; public trust issues	The bottomlands of the Great Lakes are held in trust by the State of Michigan for use and enjoyment by citizens and the general public. The state has a perpetual responsibility to the public to maintain and protect the public's fundamental rights to use this property. Private use of the bottomlands and waters are subject to the public trust.
Other comments and questions	
Public access for fishing and boating near turbines	Question: Would any area built be off limits to people or could fishing still be done in the area?

Common reasons stated	Example excerpt from comments
Other comments and questions (cont.)	
Public input process	You require some public hearings, but it appears to us that even overwhelming opposition could be ignored. Public hearings must allow for input that can lead to meaningful change, and not simply be window dressing.
Local government authority and role in siting decisions	Affected communities must be given a role in the decision-making process. *
Proximity to shoreline / use of deep water technology	Wind farms should be located far enough out in Lake Michigan so that you are unable to see them from shore. Six miles is not far enough out.
Accuracy of data using in council's mapping	Not at all adequate information about bird migration pathways.
Alternative technology such as solar, nuclear, etc.	I have heard solar is more practical.
Role and work of the council	See additional discussion below

* NOTE: In late May and early June 2010, three local governments (City of Ludington, Pere Marquette Charter Township, and the City of Charlevoix) have passed a resolution stating that approval from the governing bodies of the local communities that would be affected by, or would be able to view, an offshore wind farm must be obtained before any permit is issued for an offshore wind farm located within 15 miles from the shoreline on the Great Lakes.

In addition to offering opinions on the wisdom of developing wind energy on the Great Lakes, many of the comments indicated that the council was doing a good job given its mandate. One of the most serious concerns expressed was that the public's voices on the issue might be obfuscated by the political process, thereby negating the process and recommendations of the council.

Concerns about the Public's Input Having Meaningful Effect on Decisions

The single biggest concern expressed in the comments received by the council (other than comments directly related to the Scandia project) was that despite public opposition to offshore wind energy development in the Great Lakes, the public's concerns would have no real impact on the development process. Many people think local government has authority over Great Lakes bottomland leasing. Some of the comments opined that the state would enact legislation that ignores their pleas.

- *“You require some public hearings, but it appears to us that even overwhelming opposition could be ignored. Public hearings must allow for input that can lead to meaningful change, and not simply be window dressing. We note, for example, that GLOW is planning three public hearings, yet it appears that these may be held after the legislative proposal is finalized. This strikes me as being disrespectful of public opinion.”*
- *“One of the charters of the GLOW council is: To inform, engage and solicit feedback from the people of Michigan to insure that statewide interests are considered. This means not just hear the opposition but to act on the people's wishes, and to create a framework of legislation and regulations which reflect the wishes of the opposition. Public meetings mean nothing unless the concerns of the people are acted upon.”*

- *“There is not now nor does it seem that there will be any process of direct voting on the project. Will it be up to the county commissioners and state representatives to vote? Will the public only have an indirect effect on the approval process? Will lobbyists have more influence than county citizens?”*
- *“I am disgusted with the county/state that they are holding meetings in winter. Therefore, excluding many residents and parties affected by this project.”*

Council Performance

The great majority of comments received on the council’s performance were positive:

Positive

- *“You have diligently pursued your mission as evidenced by the Council meeting minutes and the September 1, 2009, report. The charge of developing guidelines for offshore wind farm development, and identifying the most favorable sites, is a daunting task considering the variety of stakeholder interests present. We appreciate your recognition that many companies will approach the state with offshore wind farm proposals and your proactive approach in developing guidelines that balance stakeholder interests.”*
- *“I appreciate each of your efforts and continued work on the Great Lakes Wind Council. I’m pleased that our state Rep. Goeff Hansen has proposed legislation to give the state time to implement guidelines for regulation of offshore wind farms.”*
- *“GLOW has developed an impressive Final Report, which addresses many of the complex issues. An attempt has been made to synthesize these issues into categories of suitability for offshore turbines.”*
- *“We would like to thank you for all your public service and for promoting green renewable energy in Michigan.”*

Negative

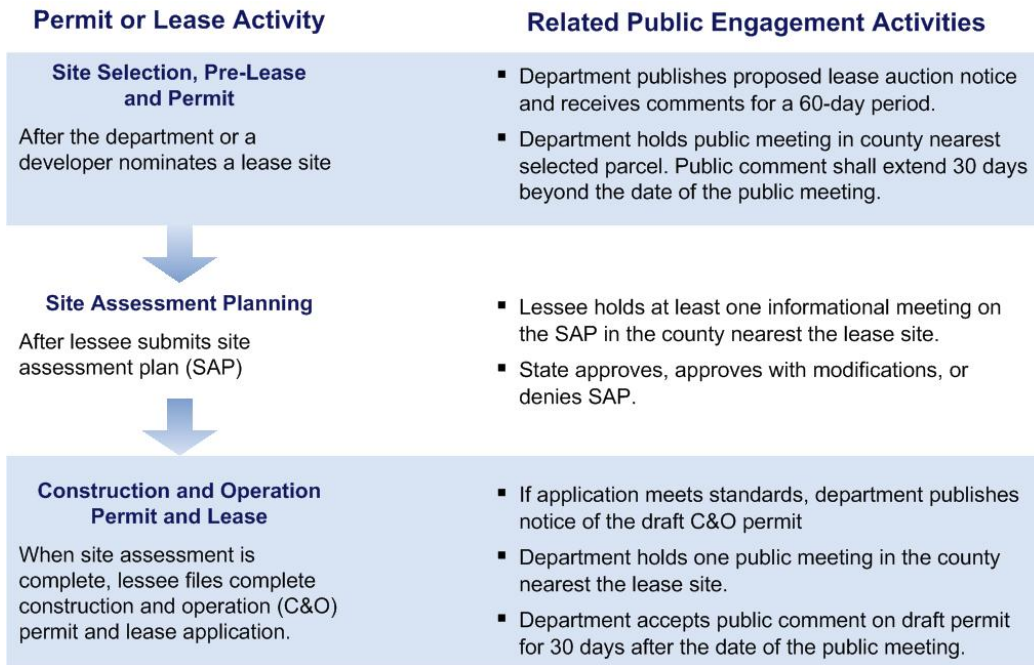
- *“Highlighting GLOW’s desperation and single-minded focus of ramrodding offshore wind power development down the throat of Michigan are their recent activities. Specifically, GLOW indicated within the past several days that it is already abandoning some of the recommendations that it made in its September 2009 report. In particular, GLOW had previously recommended that any offshore wind farm be located outside of a 6-mile buffer from the shoreline. They now suggest—just a mere 4 months from issuing that recommendation—that no such buffer is necessary. Never mind that even a 6-mile buffer is ridiculously close to shore; GLOW is so rabid about pushing their agenda, they are now willing to forsake their own recommendations.”*

Recommended Public Engagement Elements of a Future Leasing and Permitting Process

As shown in Exhibit 5, the council recommends engaging the public at several points during the proposal and development of offshore wind energy: prior to the auction of a site assessment lease, prior to the approval of a site assessment plan; and prior to the approval of a construction and operation permit. The figure below outlines the recommended process, which was presented at the public meetings in coastal

communities. The process and the related permitting and leasing activities are outlined in the proposed legislative framework.

EXHIBIT 5
Recommended Permitting Process and Related Activities



Because the Michigan Department of Natural Resources and Environment (MDNRE) operates under a joint permitting process with the U.S. Army Corps of Engineers, which has responsibilities under the federal Rivers and Harbors Act, the Clean Water Act, and the National Historic Preservation Act, the permit for an offshore wind project would be expected to trigger review under the National Environmental Policy Act (NEPA). NEPA has well-established processes for public participation and comment that would need to be coordinated with the state permitting and leasing activities.⁴ Preliminary discussions among states and federal agencies, including the Corps of Engineers, Coast Guard, Fish and Wildlife Service, Environmental Protection Agency, have occurred through several forums, including the Great Lakes Commission’s Great Lakes Wind Collaborative.

CONCLUSION

Since late fall when the council began its second phase, it has received a significant amount of feedback from the public, in terms of both the sheer volume and the extent of the comments. The comments, which generally addressed issues related to offshore wind energy and the council’s work and process to date, were received through various channels, including public meetings and direct correspondence to the council. The input

⁴ See, for example, <http://www.nae.usace.army.mil/projects/ma/ccwf/windfarm.htm>.

received was informative and it is evident that many individuals researched issues at length. Many issues identified relate generally to offshore wind energy—including the potential positive and negative impacts—and will be addressed along with mitigation of impacts as part of the permitting and leasing processes of state and federal agencies. The council is not a siting or permitting body, but it appreciates all input related to its policy recommendations and broad, statewide planning related to offshore wind energy. As part of its proposed legislative framework for the permitting and leasing of offshore wind energy projects, the council has outlined how the public should be engaged in the decision-making process. The council recognizes that the Great Lakes bottomlands are held in the public trust and it is essential that siting process and siting standards be rigorous and transparent with ample public engagement to avoid misguided developments that could have a lasting impact on the lakes and Michigan residents. Federal permitting and NEPA review will also play a significant role and involve the public in decision making.

The council's work is a first step in a longer term process that will ultimately define the requirements for permitting and leasing. That process will turn next to the legislature as it debates issues, including the detailed leasing and permitting requirements. It is expected that issues raised in the comments to the council would be considered as part of that legislative process. The council has not changed its initial recommendations on the legislation because they continue to provide a good framework from which the legislature can debate the issues and balance the interests of all involved.

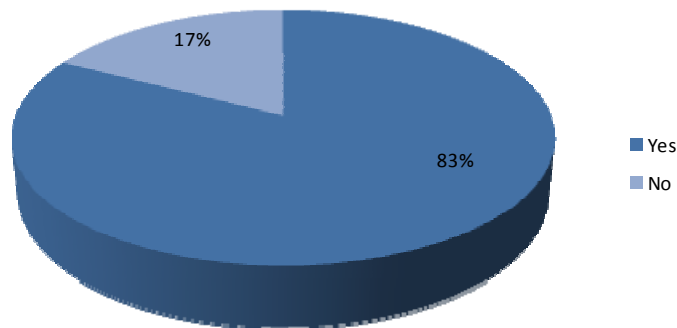
Attachment 1: Spring 2010 Coastal Community Meeting, Participant Response Tabulation⁵

June 1, 2010

PRELIMINARY QUESTIONS

After a short introduction, participants were asked two preliminary questions to test equipment and familiarize the audience with use of the response pads. Data were not recorded consistently for the first question, hence response enumeration in this report begins with “Q2.”

Q2. Have you ever seen a wind turbine in operation from outside your car?



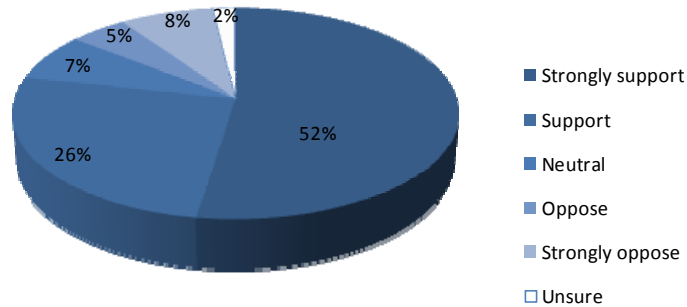
Answer Option	Number Answered	Percentage
1. Yes	271	83%
2. No	57	17%

OPINIONS ON WIND POWER

Before answering the next 5 questions, participants were read the following statement: “In 2008, Michigan passed a new Renewable Portfolio Standard law, which requires that electric utilities derive 10 percent of the power they sell from renewable sources by 2015.”

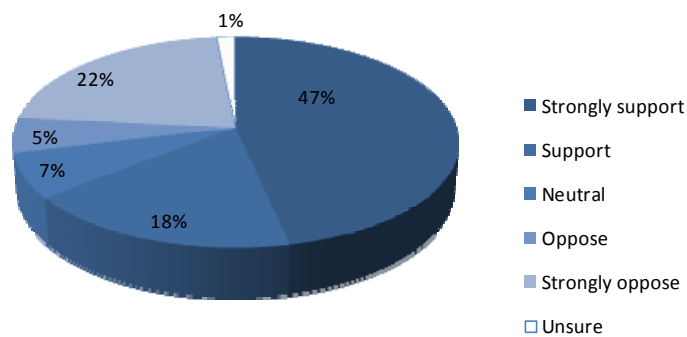
⁵ Survey questions adapted from the work of Jeremy Firestone *et al.* by Michael Klepinger and approved by the council’s public engagement work group. Audience response software management and compilation of results by Dan O’Keefe and Brandon Schroeder, Michigan Sea Grant & MSU Extension

Q3. To what extent do you support development of commercial wind farms on land to help utilities meet the Renewable Portfolio Standard?



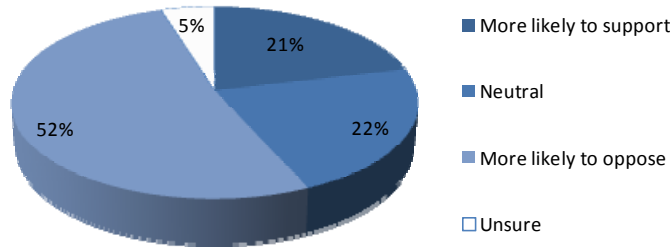
Answer Option	Number Answered	Percentage
1. Strongly support	174	52%
2. Support	86	26%
3. Neutral	24	7%
4. Oppose	16	5%
5. Strongly oppose	26	8%
6. Unsure	6	2%

Q4. To what extent do you support development of commercial wind farms offshore to help utilities meet the Renewable Portfolio Standard?



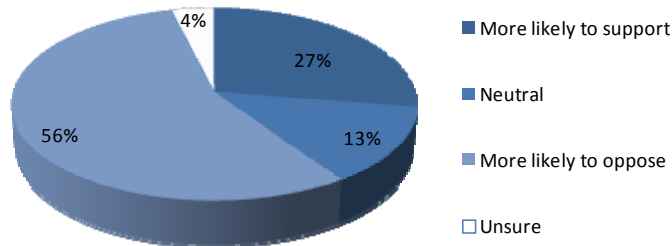
Answer Option	Number Answered	Percentage
1. Strongly support	157	47%
2. Support	60	18%
3. Neutral	23	7%
4. Oppose	18	5%
5. Strongly oppose	74	22%
6. Unsure	5	1%

Q5. Suppose that instead of an offshore wind project, a natural gas power plant was proposed near the shoreline. Would you be more or less likely to support this than a wind project?



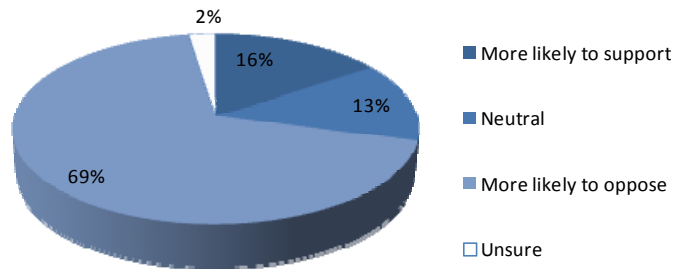
Answer Option	Number Answered	Percentage
1. More likely to support	71	21%
2. Neutral	73	22%
3. More likely to oppose	173	52%
4. Unsure	16	5%

Q6. Suppose that instead of an offshore wind project, a nuclear power plant was proposed near the shoreline. Would you be more or less likely to support this than a wind project?



Answer Option	Number Answered	Percentage
1. More likely to support	92	27%
2. Neutral	44	13%
3. More likely to oppose	187	56%
4. Unsure	13	4%

Q7. Suppose that instead of an offshore wind project, a coal power plant was proposed near the shoreline. Would you be more or less likely to support this than a wind project?

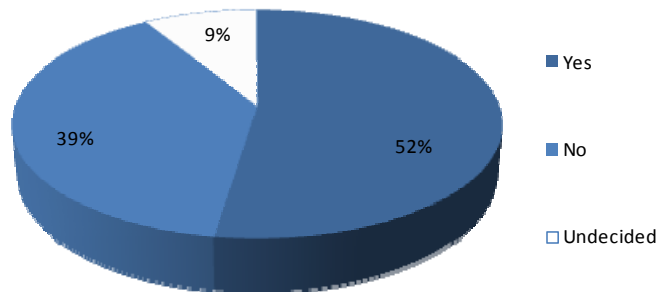


Answer Option	Number Answered	Percentage
1. More likely to support	52	16%
2. Neutral	45	13%
3. More likely to oppose	229	69%
4. Unsure	8	2%

VISUALIZATIONS

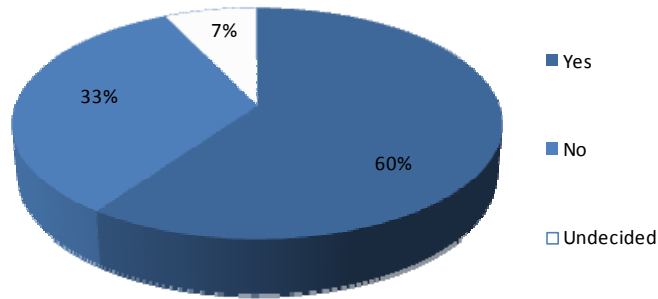
Before answering the following questions, participants were told to refer to handouts found on their tables. The handouts included three images of hypothetical wind projects as they would appear from a beach. Participants were not told how far offshore the turbines were prior to answering the questions. Photo A depicted a project 6 miles offshore. Photo B depicted a project 13 miles offshore. Photo C depicted a project 20 miles offshore.

Q8. If a proposed wind project appeared as shown in Photo A, would you support the project?



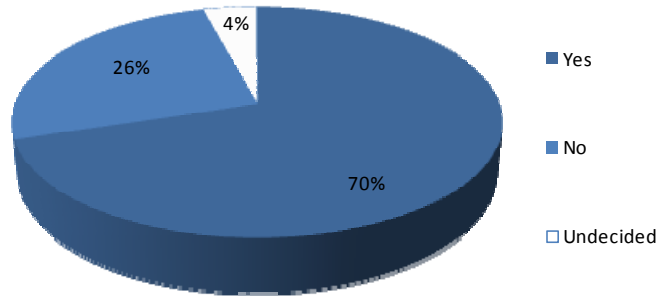
Answer Option	Number Answered	Percentage
1. Yes, I would support it.	179	52%
2. No, I would oppose it.	129	39%
3. Undecided.	9	9%

Q9. If a proposed wind project appeared as shown in Photo B, would you support the project?



Answer Option	Number Answered	Percentage
1. Yes, I would support it.	201	60%
2. No, I would oppose it.	111	33%
3. Undecided.	24	7%

Q10. If a proposed wind project appeared as shown in Photo C, would you support the project?

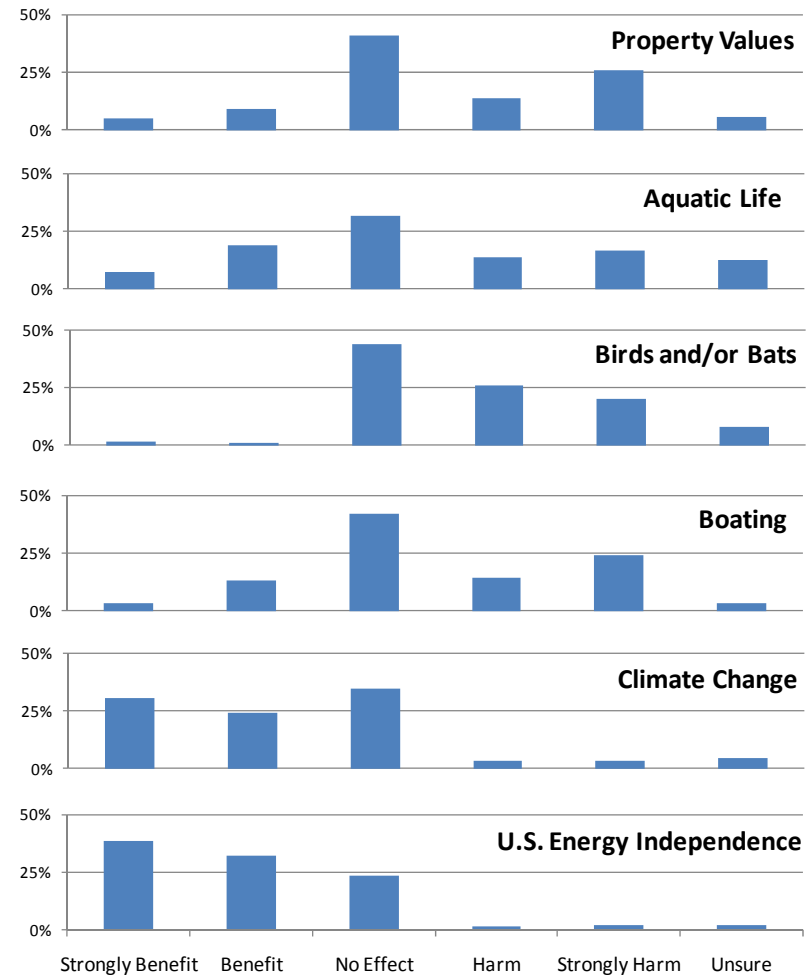
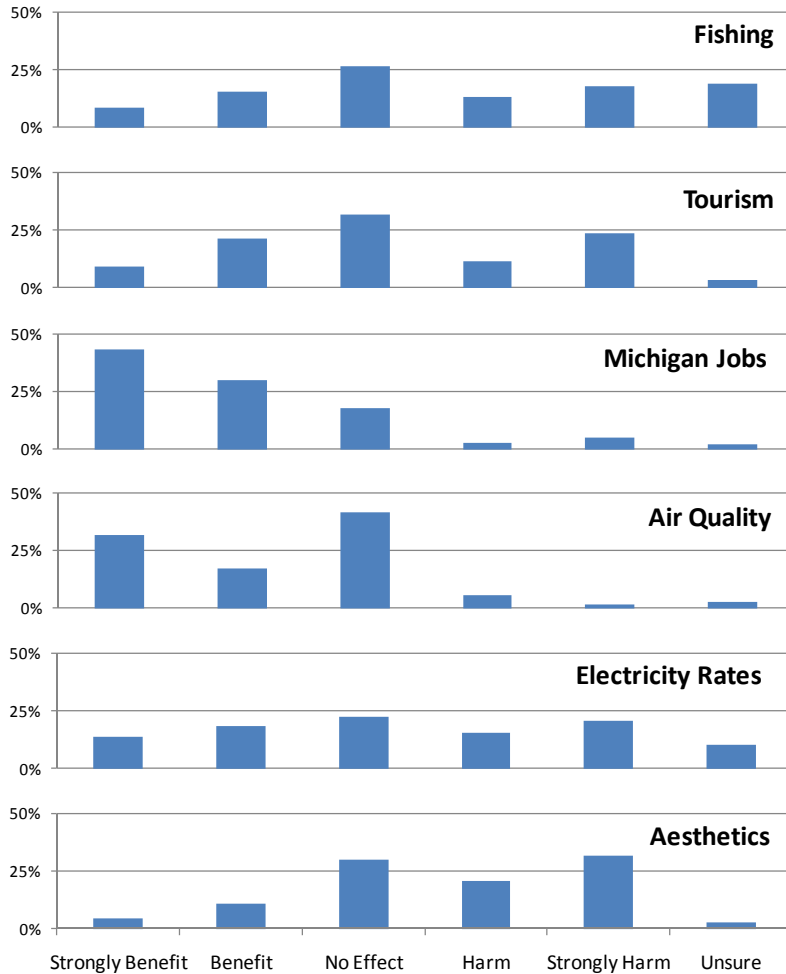


Answer Option	Number Answered	Percentage
1. Yes, I would support it.	238	70%
2. No, I would oppose it.	87	26%
3. Undecided.	14	4%

IMPACTS OF WIND ENERGY DEVELOPMENT

Before answering the questions 11-21, participants were told that “The following series of questions involves potential impacts of the hypothetical Great Lakes wind energy project pictured in Photo A.” (Photo A depicted a wind project located 6 miles offshore.) Answer choices were the same for each question, representing a 5-point Likert scale and a sixth option of “Unsure.” The table below includes answers from participants at all three meetings and the mean Likert value for participants who did not answer “Unsure.”

Q11–22. How do you think this project (Photo A) would affect _____?

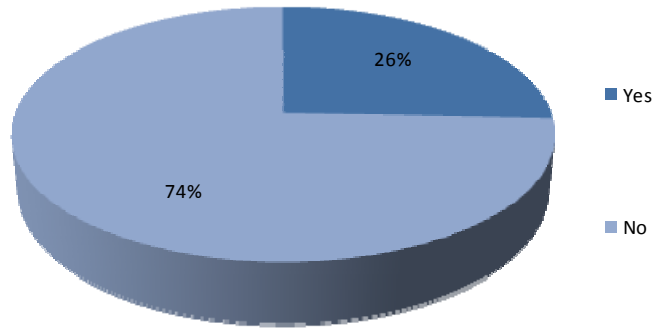


	<i>N</i>	Strongly Benefit (1)	Benefit (2)	No Effect (3)	Harm (4)	Strongly Harm (5)	Unsure	Mean
Fishing	341	9%	16%	26%	13%	18%	19%	3.20
Tourism and related businesses	344	9%	21%	31%	11%	24%	3%	3.19
Michigan job creation	338	43%	30%	17%	3%	5%	2%	1.94
Air Quality	343	32%	17%	41%	6%	1%	3%	2.26
Electricity Rates	343	13%	18%	22%	15%	21%	10%	3.13
Aesthetics of the lake view	348	5%	11%	30%	21%	31%	3%	3.65
Property values	342	5%	9%	41%	14%	26%	6%	3.49
Aquatic life	341	7%	19%	31%	13%	16%	12%	3.14
Birds and/or bats	343	1%	1%	44%	26%	20%	8%	3.67
Recreational boating	339	3%	13%	42%	14%	24%	4%	3.43
Climate change	340	30%	24%	34%	3%	4%	4%	2.22
U.S. energy independence	343	38%	32%	23%	1%	2%	2%	1.95

DEMOGRAPHIC AND WRAP-UP QUESTIONS

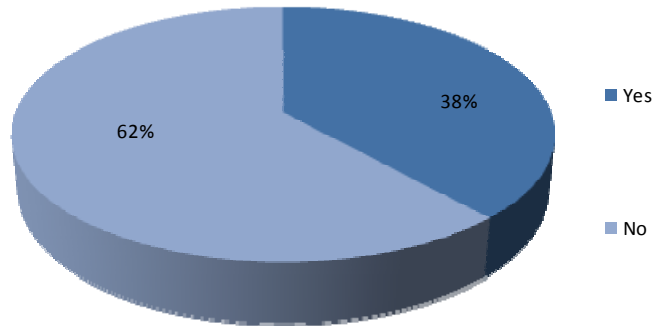
The final series of questions provides the ability to link demographic factors to previous answers. Although respondents remained anonymous, all answers from a given response pad were linked together. Participants were asked at the beginning of the evening to use the same response pad throughout the meeting.

Q23. Can you see the Great Lakes horizon from your primary residence?



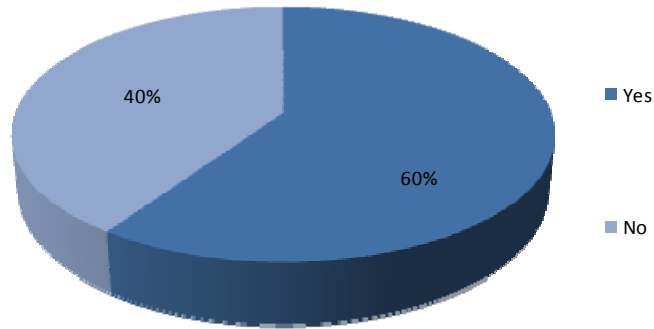
Answer Option	Number Answered	Percentage
1. Yes	83	26%
2. No	240	74%

Q24. If you have a second residence, can you see the Great Lakes horizon from there?



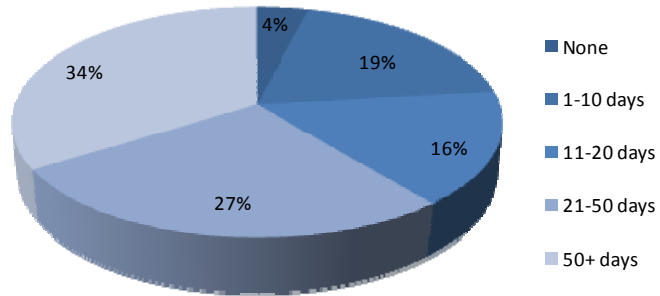
Answer Option	Number Answered	Percentage
1. Yes	67	38%
2. No	108	62%

Q25. No matter where you live, can you see the Great Lakes horizon during your day-to-day routine?



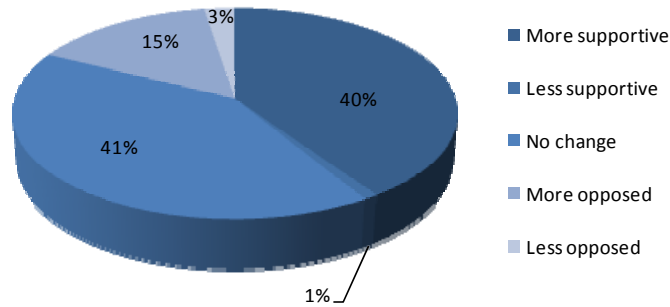
Answer Option	Number Answered	Percentage
1. Yes	190	60%
2. No	129	40%

Q26. Approximately how many days did you spend at Great Lakes beaches or on the water during the past 12 months?



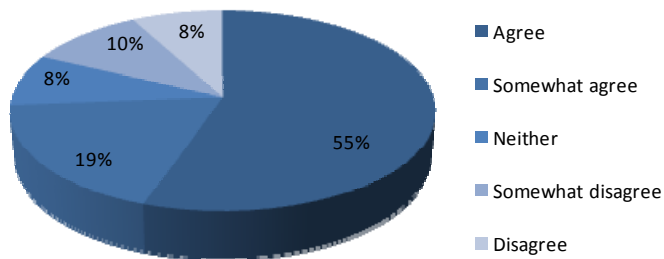
Answer Option	Number Answered	Percentage
1. None	13	4%
2. 1–10 days	63	19%
3. 11–20 days	52	16%
4. 21–50 days	89	27%
5. 50+ days	111	34%

Q27. Compared with how you felt before this meeting, how have your opinions of offshore wind on the Great Lakes changed?



Answer Option	Number Answered	Percentage
1. I am more supportive of wind.	130	40%
2. I am less supportive of wind.	3	1%
3. No change.	132	41%
4. I am more opposed to wind.	49	15%
5. I am less opposed to wind.	8	2%

Q28. Do you agree or disagree with this statement? The Great Lakes Offshore Wind Council is acting openly and transparently.



Answer Option	Number Answered	Percentage
1. Agree.	182	55%
2. Somewhat agree.	61	19%
3. Neither agree nor disagree.	27	8%
4. Somewhat disagree.	33	10%
5. Disagree.	26	8%

DEMOGRAPHIC COMPARISONS

The effects of two demographic characteristics on respondent answers were examined. The first independent variable was the meeting venue that a respondent attended (Saginaw, Escanaba, or Muskegon), and the second independent variable was the respondent’s place of residence (coastal or inland). Coastal residents were identified as those respondents who answered “Yes” to owning a primary and/or secondary place of residence within sight of the Great Lakes horizon (Q23 and Q24). Inland residents were identified as those who answered “No” to either question and did not answer “Yes” to either question.

The place of residence (Coastal or Inland) variable had a strong influence on other variables. For example, responses to Q26 show that Coastal residents spend significantly more days per year on the beach and Inland residents spend fewer days on the beach (χ^2 test for independence $P < 0.001$), as might be expected.

For all questions, the meeting venue attended had no significant effect.⁶ However, Coastal resident answers differ significantly from inland resident answers for all questions included in the analysis. In all cases, the median value is lower for Coastal residents. This trend is most pronounced in answers to Q4, the question about support for offshore wind to fulfill Renewable Portfolio Standard goals. The median value of 1 for inland residents indicates strong support for development of offshore wind, while the median value of 4 for Coastal residents indicates opposition.

Public Meeting	Number of Participants
Saginaw (Mar 25, 2010)	73
Escanaba (Apr 14, 2010)	37
Muskegon (May 4, 2010)	249
Total	359

Place of Residence	Number of Participants
Coastal	121
Inland	206
Total	327

⁶ Nonparametric statistics were used to analyze ordinal Likert-scale data from self-selected respondents, which precluded the use of a two-way ANOVA to examine interaction between meeting venue attended and place of residence in addition to main effects. To retain an α level of 0.05, Bonferroni’s correction was used and P values less than 0.025 were considered significant. Kruskal-Wallis tests were used to examine the effects of meeting venue on Likert-scale answers, and Mann-Whitney U tests were used to examine the effects of place of residence (Coastal or Inland).

Comparison 1. Effect of meeting venue (Saginaw, Escanaba, or Muskegon) on answers to Likert-scale questions.

Question	Topic	Kruskal-Wallis P value
3	Land-based wind	0.940
4	Offshore wind	0.440
11	Fishing	0.906
12	Tourism	0.039
13	Jobs	0.874
14	Air quality	0.134
15	Electricity rates	0.630
16	Aesthetics	0.027
17	Property values	0.043
18	Aquatic life	0.084
19	Birds and bats	0.096
20	Boating	0.058
21	Climate change	0.594
22	Energy independence	0.388
28	GLOW transparency	0.350

Comparison 2. Effect of place of residence (Coastal or Inland) on answers to Likert-scale questions.

Question	Topic	Coastal Resident Median	Inland Resident Median	Mann- Whitney U P value
3	Land-based wind	2	1	<0.001
4	Offshore wind	4	1	<0.001
11	Fishing	4	3	<0.001
12	Tourism	4	3	<0.001
13	Jobs	3	1	<0.001
14	Air quality	3	2	<0.001
15	Electricity rates	4	3	<0.001
16	Aesthetics	5	3	<0.001
17	Property values	4	3	<0.001
18	Aquatic life	4	3	<0.001
19	Birds and bats	4	3	<0.001
20	Boating	4	3	<0.001
21	Climate change	3	2	<0.001
22	Energy independence	2	1	<0.001
28	GLOW transparency	2	1	<0.001