

**The Views of Township Residents about Alternative Energy  
and the Duke Energy Gail Windpower Project**

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## Introduction

In Spring, 2011, the Wind Development division of Duke Energy contracted with the Center for Applied Research and Rural Studies (CARRS) at Central Michigan University to conduct a survey of landowners in four townships in Benzie and Manistee counties—Arcadia, Blaine, Joyfield, and Pleasanton. These townships are the site for the Gail Windpower Project, a project proposed by Duke Energy that would generate 200 megawatts of renewable energy. The main goal of the survey is to determine the views of landowners about the specific wind power project proposed, along with their views of alternative energy, more generally.

Benzie and Manistee counties are located in northwest lower Michigan, adjacent to Lake Michigan. Population size is small with Benzie County estimated to have a population of 17,227 in 2009 and Manistee 24,439. The U.S. Census Bureau estimates that the four townships of interest have between a low of 405 (Joyfield) and a high of 753 (Pleasanton) housing units. However, about one half of the units in Arcadia, Blaine, and Pleasanton are listed as “vacant” by the Census Bureau, in this case meaning that they are most probably seasonal residences occupied only in the summer months. Poverty rates of individuals vary from a low of 6.1 percent for Arcadia Township to a high of 20.9 percent for Blaine, at a time when the rate for the nation was 13.5 percent.

CARRS has a long-standing interest in the communities of northwest Michigan and is linked to CMU’s new Great Lakes Institute for Sustainable Systems (GLISS). GLISS promotes academic programs, research, community outreach, and campus operations that are dedicated to the advancement of sustainable systems. CARRS, created through a Michigan Research Excellence Fund grant in 1995, is charged to utilize the resources and academic

expertise of Central Michigan University to assist organizations and governmental units in addressing social, economic, environmental, and community development concerns, with particular focus on central and northern Michigan.

### **Interviewing, Questionnaire Completion, and the Sample of Landowners**

CARRS developed an interview schedule for the landowners of Arcadia, Blaine, Joyfield, and Pleasanton townships, in cooperation with Duke Energy and GLISS. While the questions were designed for administration over the telephone, they were written in a manner that made conversion to a print questionnaire format relatively easy. The telephone interview schedule can be found in Appendix A.

CARRS received lists of township landowners from Duke Energy. The lists included the landowners' names and current addresses, used for tax-billing purposes. CARRS worked with Genesys Sampling of Fort Washington, Pennsylvania to secure landline telephone numbers for as many of these landowners as possible, recognizing that the tax-billing mailing addresses of many landowners were outside of Benzie and Manistee counties. Genesys secured a telephone match for 1,462 individuals, and these represent the sampling frame for the telephone interview sample. The remaining 996 individuals were sent a questionnaire through U.S. mail.

Interest in this project was strong among township residents, resulting in high numbers of completed interviews or questionnaires. For the telephone interview, individuals were called a minimum of five times in an attempt to find a convenient time for the

respondent to complete the interview; in fact, 406 people were called six or more times.<sup>1</sup>

Interviewers were successful in completing interviews with 535 individuals, for a completion rate of 37 percent.<sup>2</sup>

The print questionnaire, postage-paid return envelope, and cover letter were mailed on March 17 and 18 to those individuals for whom we could not secure telephone numbers. A reminder postcard was mailed one week later on March 24, and a complete package of second cover letter, second copy of questionnaire, and return envelope was mailed on April 6. Included in this analysis are the completed print questionnaires that we received through Tuesday, April 19, 2011. Again, the completion rate is high. As of April 20, 455 or 46 percent of print questionnaires were returned.<sup>3</sup> Appendix B contains copies of the cover letters and the postcards.

CARRS wishes to thank all of the respondents for the time they spent speaking with our interviewers or completing the print questionnaire. The median length of the telephone interview was 14 minutes.

## Findings

The discussion of the findings from the survey project is organized into six sections.

- The characteristics of the sample of landowners;

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<sup>1</sup> The interview schedule began by confirming that the respondent was at least 18 years of age and did own property in one of the four relevant townships.

<sup>2</sup> 176 phone numbers were coded by interviewers as wrong numbers, fax/modem lines, or out of service phones. Only 315 people refused to participate in the study, with the remaining numbers associated with calls that resulted in dispositions such as "no answer" or "answering machine" after repeated attempts. Interviewers received a "no answer" response each time from 27 landowners who were called five or more times. Similarly, 166 landowners, who were called at least five times, were coded as "answering machine" each time they were called. Given that telephoning occurred in March and April, it is possible that these individuals are "snow birds" who spend part of the year in Michigan and spend the winter months elsewhere.

<sup>3</sup> 43 packets or postcards were returned to CARRS without completed questionnaires. Of these, 39 were marked as "undeliverable" by the post office; two had an indication that the individual in question was deceased; one wrote "not interested" across the questionnaire; and one was from a non-profit organization choosing not to "take sides."

- The quality of life and concerns of respondents;
- Landowners' views of the impact of windpower projects on Benzie and Manistee counties;
- Respondents' sources of information, knowledge level, and interest in alternative energy and the Gail Windpower Project;
- Opinions about the Gail Windpower Project; and
- Predictors of support or opposition to the Gail Windpower Project.

### **The Property and Demographics of the Sample of Landowners**

Respondents were asked a variety of questions about their property, themselves, and their households. These data on the property and residence of respondents are summarized with the percentage distributions found in Table 1.

**Table 1: Property Characteristics and Residence of Landowners:  
Percentage Distributions**

	<b>Percent</b>
<b>Township in which property is owned</b>	
Arcadia	34.2
Blaine	21.3
Joyfield	19.2
Pleasanton	30.9
<b>Type of land owned</b>	
Agricultural	23.6
Residential	76.0
Commercial	4.5
Vacant	18.5
<b>How long have you owned property in this township(s)?</b>	
0 – 5 years	9.8
6 – 10 years	15.2
11 – 20 years	26.0
21-40 years	32.1
More than 40	16.9

In a typical year, how many weeks do you spend in northwest Michigan?	Percent
0 – 4 weeks	17.5
5 – 8 weeks	12.0
9 - 25 weeks	23.0
26 or more	47.5
Location of primary residence	
Northwest Michigan	64.4
Elsewhere in Michigan	22.2
Contiguous states of IL, WI, IN, OH	5.9
Other states (not contiguous to Michigan)	7.5
Are you registered to vote in Benzie or Manistee county?	
Yes	58.8
No	41.2
Frequency of voting in local elections, among those registered	
Hardly ever	3.5
Sometimes	6.5
Most of the time	89.9

Members of the sample are most likely to own land in Arcadia and Pleasanton townships—at least 30 percent of them do so—and are least likely to own land in Blaine and Joyfield townships—with about 20 percent of the sample reporting landownership in each of these townships.<sup>4</sup> More than three quarters of respondents report that they own residential property, while about one quarter report that their land is agricultural.<sup>4</sup> Respondents have long-standing ties to the area, with about 50 percent of respondents indicating that they have owned their land for more than 20 years.

Respondents interviewed over the telephone were asked whether they considered their primary residence to be in one of the four townships that are the focus of this investigation. If not, they were asked to indicate the city and state in which they reside.

<sup>4</sup> Percentages will not equal 100 because respondents can own land in more than one of the four townships in question.

Respondents who completed the print questionnaire were simply asked to list the city and state of their primary residence. Table 1 shows that almost two thirds of the sample indicate that their primary residence is in northwest Michigan (which includes a broader geographic area than the four target townships), with another 22 percent reporting living elsewhere in the state. Another indicator of residence patterns results from responses to the question asking for an estimate of the number of weeks respondents spend in a typical year in northwest Michigan. While about 30 percent of the sample indicates that they spend less than eight weeks in the area, almost 50 percent are in northwest Michigan more than 25 weeks per year.

Almost 60 percent of the sample is registered to vote in Benzie or Manistee county. Among these respondents voting turnout is high, with almost 90 percent reporting that they vote in local elections most of the time.

Table 2 uses percentage distributes to summarize the demographic characteristics of landowners in the sample.

**Table 2: Demographic Characteristics of Landowners:  
Percentage Distributions**

	<b>Percent</b>
Gender	
Male	61.7
Female	38.3
Year Born	
1900 – 1930	9.2
1931 – 1950	47.4
1951 – 1970	38.9
1971 - 1993	4.5
Household composition	
One or more adults 65 years and over	46.3
One or more child under 18 years of age	19.3



	Percent
Highest year of school completed	
Less than high school	2.9
High school	20.6
Some college	21.5
College graduate	32.3
Graduate school	22.7
Current employment status	
Employed full-time	39.4
Employed part-time	6.4
Retired	43.8
Homemaker	2.7
Other	7.8

Roughly 60 percent of the sample is male and 40 percent is female. The median year of birth for respondents is 1948, with only five percent of the sample born after 1970. Almost one half of sample members indicate that one or more senior citizen lives in their household, and about 20 percent of respondents live in a household with children (under 18 years of age). Roughly 40 percent of the sample indicates that they are currently employed full time, and comparable numbers of respondents are retired. Respondents are a highly educated group with more than 50 percent reporting having completed at least a college degree. In fact, more than one respondent in five has completed post-graduate work.

### **Quality of Life and the Concerns of Landowners**

The interview began by asking respondents "to describe the quality of life in northwest Michigan" and to indicate "the biggest problem facing residents of Benzie and Manistee County today." While respondents were asked to rate the quality of life, given the four categories of "excellent, good, fair, and poor," they were given the opportunity to discuss the biggest problem in their own words. CARRS's staff, then, coded these open-

ended responses into a series of discrete categories. Appendix C contains respondents' verbatim responses, organized into the categories created by CARRS.

Later in the interview, respondents were asked how concerned they are "about a number of issues that might affect people in your area." For each of four specific issues, they were asked to indicate whether they are "very concerned," "somewhat concerned," "not too concerned," or "not at all concerned." Questions such as these help to place respondents' views about wind energy in context.

Table 3 uses percentage distributions to summarize responses to the closed ended-questions. The table also provides the code categories developed by CARRS to highlight the key themes from respondents' open-ended discussion of the biggest problem facing Benzie/Manistee respondents. Because some respondents discussed more than one problem, the table provides data on the number of respondents in each code category developed by CARRS for the first and second mentioned problem.

**Table 3: Quality of Life and Concerns about Issues Affecting the Area:  
Frequency and Percentage Distributions**

Quality of life in northwest Michigan	Percent
Excellent	52.3
Good	38.5
Fair	7.2
Poor	2.0
	Number
Biggest concern facing residents—First mention (open-ended)	
Jobs, the Economy	616
Wind energy, Energy issues	67
Environmental issues	33
Other (Miscellaneous factors)	141
Don't know	30

	Number
Biggest concern facing residents—Second mention (open-ended)	
Jobs, the Economy	1
Wind energy, Energy issues	13
Environmental issues	15
Other (Miscellaneous factors)	31

How concerned are you about.....	Very Concerned Percent	Somewhat Concerned Percent	Not too Concerned Percent	Not at all Concerned Percent
The quality of the environment — the air, the soil, and the water?	67.0	25.6	6.2	1.2
American dependence on other countries to provide for future energy needs?	59.4	31.3	6.4	2.9
The economic situation facing residents in Benzie and Manistee counties?	59.1	32.5	6.4	2.1
The effects of using fossil fuels, such as coal and oil, on the environment?	32.3	39.3	19.1	9.4

As Table 3 indicates, respondents are overwhelmingly positive about life in northwest Michigan. In fact, more than one half of the sample indicates that the quality of life is “excellent,” with another 39 choosing the response option “good.”

More than 600 respondents indicate that jobs and the economy constitute the biggest problem facing residents in Benzie and Manistee counties. Responses coded into this category were the most numerous by far. Many respondents simply noted the “lack of jobs” or “unemployment.” Others pointed to “the bad economy” or “economic problems.”

While mentioned by many fewer respondents, some members of the sample – 79 of them – reported that aspects of wind energy constitute the biggest problem facing these northwest Michigan counties. One respondent said that the biggest county problem is “the

destruction of the natural beauty of the area by putting up ugly and loud wind turbines.”

Another indicated that “wind farms dividing our communities and destroying our pristine natural beauty, therefore further devaluing our property and our economic future” constitutes the biggest problem facing county residents. Several respondents simply noted that the “the Duke Wind Farm Project” is the biggest problem facing Benzie and Manistee county residents.

Respondents do also express concerns about all four issues (we posed to them) affecting their area and the nation, more generally. They were most likely to indicate that they are very concerned about the quality of the environment, with two thirds expressing this point of view. Almost 60 percent of the sample also report this high level of concern with American dependence on other countries for future energy needs and on the economic situation facing residents in Benzie and Manistee counties. A much smaller percentage of respondents—about one third—express a high level of concern about the effects of using fossil fuels on the environment.

### **Views about Wind Power Projects**

Respondents were asked a number of questions to explore their views about the positive and negative aspects of wind power projects, generally. In the telephone interview format, interviewers told respondents that they were going to read a “series of factors that some people think are associated with wind power projects.” Respondents were then asked whether they think that “a wind power project in Benzie and Manistee counties will have an impact on it.” If respondents perceived an impact, a follow-up question asked whether they

perceived the impact to be “very positive, positive, negative, or very negative.” Table 4 uses percentages to summarize responses to these questions.

**Table 4: Impact of Wind Power Projects on Benzie and Manistee Counties: Percentage Distributions**

Impact of wind power project on...	Percent of Respondents Who See an Impact			
	Very Positive Impact	Positive Impact	Negative Impact	Very Negative Impact
Economic situation in the counties	14.7	51.7	19.3	14.3
Property values in the counties	6.2	14.8	38.8	40.2
Beauty of the counties	4.4	8.8	44.2	42.7
Sound levels in the counties	3.4	5.4	51.9	39.2
Wildlife in the counties	4.0	6.1	56.1	33.8
Tourism	5.3	15.0	43.0	36.7

Majorities of respondents report that a wind power project in Benzie and Manistee counties will have an impact on each of the six areas we discussed with them. That is, the percentage of respondents choosing the “no impact” option is less than 50 percent in each case.

Respondents were most likely to indicate that a Benzie/Manistee wind power project will have an impact on the “economic situation in the counties” and on “property values in the counties,” with about 80 percent of the sample holding these points of view. However, sample members report decidedly different views about whether the impact of a wind power project will be positive or negative. While almost two thirds of the sample indicate that the impact of a wind power project will have a positive or very positive impact on the counties’ economic situation, a higher percentage of respondents—about three quarters—see the impact on property values as being negative or very negative. In fact, it is only in the area of

the overall economic situation where we find majorities of respondents seeing an impact reporting that the impact is a positive one.

Smaller percentages of respondents – between 65 and 75 percent – believe that a Benzie/Manistee county wind power project will have an impact on the beauty of the area and on the sound levels. However, more than 80 percent of respondents who see an impact in these areas believe that it will be a negative or very negative one. Similarly, while about 40 percent of sample members believe that a wind power project will have no impact on wildlife or tourism in the area, at least 80 percent of those who perceive an impact believed it will be a negative one.

#### **Sources of Information & Wind Power Knowledge and Interest Levels**

A number of questions throughout the interview focused on how respondents receive information about northwest Michigan issues, generally, and the Gail Windpower Project, in particular. Respondents were asked how often they “get information about northwest Michigan issues” from a variety of sources. The response options were “often,” “sometimes,” “rarely,” and “never.” A follow-up question asked: “What is your preferred way of getting information about northwest Michigan issues?” Table 5 uses percentage distributions to summarize respondents’ answers to these questions.

**Table 5: Sources of Information about Northwest Michigan Issues: Percentage Distributions**

	<b>Often</b>	<b>Sometimes</b>	<b>Rarely</b>	<b>Never</b>
Friends, neighbors, or relatives	42.9	39.6	13.8	3.6
Television	40.3	28.1	18.8	12.8
Local newspaper	38.3	27.6	20.6	13.5
Radio	27.0	27.5	23.2	22.3
Websites on the Internet	21.7	25.7	21.7	30.9

Preferred Way of Receiving Information	
	Percent
Radio or television	24.2
Newspaper	20.9
Internet/web	12.6
Friends/relatives	12.6
Email	5.6
YouTube	0.1
Facebook	0.1
Twitter	0.1
Other	23.7

Respondents are most likely to receive information from friends/neighbors/relatives, from television, and from the local newspaper. At least 38 percent of respondents rely on each of these sources "often." By contrast, only about one quarter of respondents often receive northwest Michigan information from the radio or from websites, and a comparable number "never" receive information in these two ways. While many respondents did not choose a single source when asked about their preferred way of receiving information (those mentioning multiple sources are coded in "other"), the pattern of single source preferences mirrors the findings above. The traditional media of newspapers and radio/television are seen as preferable to the Internet, e-mail, and social media. Friends and relatives, while often a source of information, are not necessarily viewed as the preferred way of receiving information.

Respondents were also asked questions about whether they receive information about wind power projects, generally, and the Duke Energy Gail Windpower Project, in particular, in a number of ways. Table 6 provides the percentages of responses responding affirmatively and negatively to each question, as well as the numbers who provide specific responses to open-ended follow-up questions.

**Table 6: Information about Wind Power Projects:  
Frequency and Percentage Distributions**

	<b>Yes Percent</b>	<b>No Percent</b>
Have you ever visited or seen a wind power project?	75.8	24.2
If yes, where is farm	<b>Number</b>	
Northwest Michigan	156	
Other areas in Michigan	37	
Contiguous states	53	
Other states and countries	158	
Other types of responses	5	
	<b>Yes Percent</b>	<b>No Percent</b>
Have you talked with any residents in Benzie or Manistee counties about the proposed Gail Windpower Project?	70.5	29.5
Have you seen any "Did You Know?" advertisements about the Gail Windpower Project?	33.7	66.3
If yes, where have you seen advertisements	<b>Number</b>	
Newspaper	158	
Flyer or mailer	69	
Email or internet	28	
TV or radio	23	
Don't know/remember	23	
Committee or meeting	11	
Other	19	
	<b>Yes Percent</b>	<b>No Percent</b>
For those who have seen the advertisements: Did the advertisements prompt you to visit the Gail Windpower Project website?	27.5	72.5



	Yes Percent	No Percent
Did you attend the January 16 informational open house Duke Energy hosted on the proposed Gail Windpower Project?	9.0	91.0
For those who did attend: "How did you find out about the open house?"		
	Percent (Based on N=80)	
Friend or family member	25.0	
Newspaper article	22.5	
Newspaper ad	10.0	
Radio ad	2.5	
Internet ad	1.3	
Internet	1.3	
Other	37.5	
Where are you most likely to go for information about the Gail Windpower Project?		
	Number	
Internet/websites/email/mail	392	
Friends, local talk, relatives	185	
Newspaper; TV	175	
Gov't office/board, committees, open hearings	157	
Duke Energy	84	
Don't Know	153	
Other	29	

About three quarters of respondents have direct experience with wind power projects, in the sense of having seen or visited a project themselves. Respondents who had seen or visited such an installation were asked where it was located. The largest number of respondents indicated that the wind projects that they had seen or visited were in northwest lower Michigan, while slightly fewer respondents mentioned a project that was neither in Michigan nor in one of Michigan's neighboring states.

About 70 percent of respondents report that they have talked with residents in Benzie and Manistee counties about the Gail Windpower Project. Many fewer respondents – only about one in three – have seen the "Did You Know?" advertisements sponsored by Duke Energy. When asked where they saw the ads, a majority mentioned the newspaper, while

others mentioned that they had seen a flyer or mailer. The ads themselves drove slightly more than one respondent in four who saw them to the Gail project website.

However, still fewer respondents – only about one in ten – attended the Open House sponsored by Duke Energy in mid-January. These respondents were most likely to have learned about the Open House through the newspaper and word of mouth (i.e., friends or family members).

Respondents were asked where they were “most likely to go for information about the Gail Windpower Project.” The largest number of respondents indicated the use of the Internet, websites, e-mail, or traditional mail, with by far the largest number of these using electronic sources (rather than print mail). Respondents also relied on the traditional broadcast media—newspapers and television—and on word of mouth (i.e., talk with friends and relatives and “local talk”). Fewer respondents—but more than 10 percent—indicated that they received information about the Gail Windpower Project from government offices/boards, committee meetings, and open hearings. Respondents were least likely to explicitly mention Duke Energy as a source of information on the project, although it is possible that some of the websites indicated as information sources were, in fact, sites hosted by Duke Energy.

Throughout the interview, respondents were asked a number of questions about how knowledgeable they are about alternative energy, generally, and wind power projects, specifically. They were also asked a question about the extent to which they have been following the discussions about the proposed Duke Energy Gail Windpower Project. Table 7 summarizes responses to these questions.

**Table 7: Knowledge about and Interest in Alternative Energy and the Gail Windpower Project: Percentage Distributions**

	Very Knowledgeable	Somewhat Knowledgeable	Not too Knowledgeable	Not at all Knowledgeable
Alternative energy, generally?	21.4	61.9	14.6	2.2
Wind energy, specifically?	21.2	56.5	19.5	2.9

  

	A Great Deal	Some	Not too much	Not at all
How much have you been following the news about this proposed wind power project?	38.6	36.1	16.2	9.1

Slightly more than one respondent in five indicates that s/he is very knowledgeable about alternative energy or wind energy, and comparable numbers report that they are either "not to" or "not at all knowledgeable." However, the most common (modal) response is "somewhat knowledgeable," with roughly 60 percent of respondents choosing this response option.

Respondents were also asked how much they have been following the news about the proposed wind power project. Almost 40 percent of them indicate that they have been following the news "a great deal," with another 36 percent saying "some." Only about one quarter of these landowners report that they have been following news about the project "not too much" or "not at all."

### **Opinion about the Gail Windpower Project**

Respondents were asked a straight-forward question about their opinion of the Duke Energy Gail Windpower Project. In particular, they were asked: "Given what you know now, please indicate your level of support or opposition to the proposed Gail Windpower Project?" Response options allowed for the expression of strength of sentiment as well as

direction, by distinguishing between definite and probable support or opposition. Table 8 summarizes respondent opinion with two percentage distributions, one which includes respondents who have no opinion on the project and one which excludes those “don’t know” respondents.

**Table 8: Support or Opposition to the Gail Windpower Project:  
Percentage Distributions**

	Definitely Support	Probably Support	Probably Oppose	Definitely Oppose	Don't know
Total sample without “don’t know” responses	20.5	28.2	17.7	33.6	--
Total sample including “don’t know” responses	18.6	25.7	16.1	30.6	9.0

Most people do have an opinion about the Gail Windpower Project; only nine percent of the sample indicate that they have no opinion or “don’t know.” And, the sample is decidedly split in their opinions about the proposed project. In fact, 49 percent with an opinion (other than “don’t know”) express some level of support for and 51 percent report opposition. What is important to note, however, is that there is stronger opinion (indicated by the “definitely” response) on the opposition side.

Respondents who support the project were asked to indicate the main reason for their support. Similarly, respondents with opposing views were asked why they feel this way. CARRS’s staff coded these open-ended comments into a series of discrete categories. The responses from the telephone interview were coded separately from those from the print questionnaire; in the one case, interviewers recorded respondents’ opinion, in the other respondents wrote comments themselves in long hand. The categories, along with the numbers of respondents in each are found in Table 9a and Table 9b, with comments from the supporters of the project in 9a and those from opponents in 9b. No distinction is made in the

table between responses from the telephone interview and from the print questionnaire, because analysis showed them to be so similar. Verbatim comments, organized into the code categories, are found in Appendix C.

**Table 9a: Reasons for Support or Opposition to the Gail Windpower Project:  
Frequency Distributions**

<b>Reason for Support</b>	<b>Number</b>
Alternative Energy; Clean Energy	174
General Support	106
Economy; Jobs; Finances	108
Foreign Energy Concerns; Fossil Fuels	34
Minimal Impact	18
Other	68

Respondents who are supportive of the Gail Windpower Project are most likely to provide positive comments about alternative or clean energy. For example, one respondent said that “we need to study and try other energy means.” Another noted that “diversified, renewable, clean energy resources are essential.” Yet another argued that “alternative energy is necessary, wind is free...No smoke and grime. It is natural, away from foreign oil and burning coal.”

Supportive respondents also mentioned the positive implications of the project for the economy or jobs or the finances of the area. For example, one respondent said that the project is “good for township, state, and nation economically. Becoming more energy independent. Benefit for farmers and their current economic distress.” Another noted that the project “will be good for the farms to have a steady source of income.” Another simply mentioned that the project is a “good way to get power and jobs.”

Some respondents simply reiterated their positive support for the project without providing specifics.

**Table 9b: Reasons for Opposition to the Gail Windpower Project:  
Frequency Distributions**

<b>Reason for Opposition</b>	<b>Number</b>
Beauty (aesthetic) concerns	127
Noise; Sound; Vibration issue	76
General negative	68
Property values down	69
Wildlife – Bird concerns	46
Location; Distance for setback	33
Tourism; Vacation concerns	32
Inefficient; Does not produce enough energy	24
Costs now and future	27
Economy	27
Question; Lack of info	23
Environment general	36
Short lifespan; Clean up	13
Other	125

Respondents opposed to the project were more specific and detailed in their reasons for opposition. In fact, CARRS created 13 distinct categories to capture their points of view. The most common responses centered on the projected negative impact of the project on the beauty of the area. One respondent wrote on the back of a return envelope: “Goodbye Pure Michigan!” Similarly, another respondent said that s/he does not “want wind towers to ruin the beauty of the land.” Yet another was concerned that “they [Duke Energy] do not care about our viewscape or anything else.” One respondent noted that “we recently moved to [township] from [other part of Michigan] for the natural beauty of the area. We have plans to build here, but have put that on ‘hold’ until we see the impact of this project.”

Other explanations for the negative support centered on the noise and vibration associated with a wind project and with the perception that property values will decline. Regarding noise levels, one respondent said that the project “would be loud, disturbing, ugly, and unnecessary.” Another expressed “concern for noise levels.” Yet another did not feel that “they’re telling truth about noise levels.” In terms of property values, one respondent simply said: “I think it will ruin property values, beauty, tourism” and that it will “negatively impact the economy in those counties as well.” Another noted that that the project is “just a giant waste of taxpayers’ dollars for 20% efficiency. Drop in property values and ruining of all properties.” Another respondent was concerned that the project “erodes the value of our home investment.”

Respondents were also asked what additional information about the Gail Windpower Project would be useful. Again, these open-ended responses were coded into discrete categories by CARRS, and the responses, organized into these categories, are found in Appendix C. Table 10 provides the numbers of respondents in each code category.

**Table 10: Desired Additional Types of Information about the Gail Windpower Project: Frequency Distribution**

<b>Type of Information</b>	<b>Number</b>
None; Don't know	213
Location	131
Details –Height, soil, electricity, noise, etc	95
Just more information; “All” information	90
Money concerns; Taxes; Subsidies; Expenses	80
Facts; Truth; No Politics	36
Issues of repair; Maintenance; Decommissioning	35
Want project abandoned	29
Written Info – Pamphlet, Flyer, etc	27
Other	196

While the largest number of respondents indicated that they needed no more information or did not know what additional information would be useful, it is clear that some members of the sample want more information and more details about the project. A number of respondents asked pointed questions about the precise location of the proposed project. Others asked for various details about the project. For example, one respondent wanted to know the “effects about the shadows, and how much kilowatts it will produce.” Another wanted information on the “effects on the environment, wildlife, the economy, tourism.” Yet another was interested in knowing more about “noise levels, safety record, property damage.”

And some respondents wanted all the information that is available. Coded in this category is a response such as “I would like to know every detail—who, what, where, when, why? What if’s...what happens if something goes wrong.”

At the end of the interview, respondents were asked whether they had any additional comments to add. Respondents who completed the print questionnaire at times added written comments in the margins, and these comments were coded as well. CARRS coded these comments as well, and provide the code categories and frequency distribution in Table 11.

**Table 11: Additional Comments: Frequency Distribution**

<b>Type of Comment</b>	<b>Number</b>
Questions – Need Info	48
Positive – Supportive	33
Adverse affects – Environment, tourism, wildlife, etc	28
Opposition – General	27
Location	24
Distrust; Lies; Deception	16
Financial concerns	13
Need alternative energy	10
Other	114
No comment; None	153



While the largest number of respondents choose not to provide additional comments, some took the occasion to make general comments – either positive or negative – about the proposed wind energy project. The general pattern of seeing more detailed oppositional comments discussed above is repeated here. And, again, some respondents are desirous of more information about the project, generally.

### **Predictors of Support and Opposition to the Gail Windpower Project**

Opinions about the Gail Windpower Project are not randomly distributed throughout the population. In fact, some subgroups of the sample are more likely to favor and others to oppose the proposed project. Table 12 provides the percentages of respondents with opinions in support and in opposition to the project by relevant demographic and property characteristics. “Don’t know” responses are excluded from the analysis. Only those factors that distinguish between supporters and opponents are presented in the table. That is, if relevant sample subgroups do not differ by more than five percentage points, the data are not presented. As an example, because males and females have similar opinions (with 51 percent of males and 47 percent of females in support of the project), these data do not appear in Table 12.

**Table 12: Opinions about Gail Windpower Project by Demographic and Property Characteristics: Percentages**

	<b>Support</b>	<b>Opposition</b>
<b>Year of birth</b>		
1990-40	55.9	44.1
1941-50	50.2	49.8
1951-60	47.8	52.2
1961-70	44.4	55.6
1971-88	46.2	53.8

	Support	Opposition
Highest year of school completed		
Less than high school	66.7	33.3
High school	58.6	41.4
Some college	57.4	42.6
College graduate	47.3	52.7
Graduate school	33.8	66.2
Employment Status		
Employed full-time	42.7	57.3
Employed part-time	58.2	41.8
Retired	51.7	48.3
Homemaker	52.4	47.6
Other	60.9	39.1
Township		
Arcadia	36.5	63.5
Blaine	43.6	56.4
Joyfield	53.3	46.7
Pleasanton	63.8	36.2
Place of residence		
Northwest Michigan	48.3	51.7
Other Michigan	53.4	46.6
Contiguous states	46.8	53.2
Other states	40.0	60.0
Weeks in northwest Michigan		
0 - 12 weeks	52.3	47.7
13 - 25 weeks	39.5	60.5
26 - 52 weeks	44.2	55.8
Type of land owned		
Agricultural	58.0	42.0
Residential	42.7	57.3
Commercial	53.7	46.3
Vacant	63.7	36.3

While the differences are not large, the oldest respondents are slightly more likely than the youngest respondents to favor the Gail Windpower Project. Educational level has a marked impact on opinions about the proposed wind project, with highly educated people

expressing the highest level of opposition. In fact, only about one third of landowners with graduate school education support the project, while two thirds of those with less than a high school education favor it. People who are employed full time are most opposed to the project.

Support for the project is highest in Joyfield and Pleasant townships and lowest in Arcadia and Blaine. In fact, in Arcadia township, only slightly more than one third of landowners express support for the project, while in Pleasanton township almost two thirds of landowners are positive. Support for the project is highest among respondents who consider their primary residence to be in Michigan, but not in northwest Michigan; however, even here the percentage in favor is only slightly more than 50 percent. Support for the Gail Windpower Project is strongest among those who spend the least amount of time in northwest Michigan and lowest among those who spend 13-25 weeks in the area. People who own residential property are most likely to be opposed to the project, while individuals who own agricultural, commercial, or vacant land are more likely to be supportive.

Of course, numerous other factors may affect landowners' opinions about the proposed Gail Windpower Project. Table 13 provides data on the impact of some of these other factors on support or opposition to the Gail Windpower Project. Factors in the table were chosen because of their inherent interest and because analysis indicated a difference between sub-groups of the sample of more than five percentage points.

Table 13: Opinions about Gail Windpower Project by Other Characteristics:  
Percentages

	Support	Opposition
Quality of life		
Excellent	38.9	61.1
Good	56.3	43.7
Fair	71.9	28.1
Poor	70.6	29.4
Concern about Economic Situation in Benzie/Manistee counties		
Very concerned	55.3	44.7
Somewhat concerned	44.8	55.2
Not too concerned	27.1	72.9
Not at all concerned	26.3	73.7
Concern about American dependence on other countries for energy needs		
Very concerned	61.1	38.9
Somewhat concerned	34.4	65.6
Not too concerned	23.2	76.8
Not at all concerned	22.2	77.8
Visit/Seen a wind power project		
Yes	47.2	52.8
No	55.7	44.3
Knowledge about alternative energy		
Very knowledgeable	35.1	64.9
Somewhat knowledgeable	52.2	47.8
Not too knowledgeable	53.9	46.1
Not at all knowledgeable	80.0	20.0
Knowledge about wind energy		
Very knowledgeable	32.8	67.2
Somewhat knowledgeable	52.0	48.0
Not too knowledgeable	57.1	42.9
Not at all knowledgeable	71.4	28.6
Talk to resident about the project		
Yes	41.2	58.8
No	68.6	31.4

	Support	Opposition
Attended January Open House		
Yes	43.2	56.8
No	49.7	50.3
How much you have followed news about proposed project		
A great deal	32.6	67.4
Some	54.9	45.1
Not too much	65.9	34.1
Not at all	70.6	29.4

There is a decided relationship between perceptions of the quality of life in northwest Michigan and opinion about the Gail Windpower Project. Support for the project is highest among those who see the quality of life as only "fair" or "poor," and opposition is highest among those who report that the quality of life as "excellent" or "good." In fact, only slightly more than one third of respondents who give the highest rating to the quality of life in northwest Michigan support the wind power project, while more than 70 percent of respondents with low quality of life ratings express support. While respondents were not asked a question about their household income, other studies have shown that perceptions of the quality of life are positively related to household income (along with other factors).

In fact, respondents who are very concerned about the economic situation in Benzie and Manistee counties are more than twice as likely to support the Gail Windpower Project as those who are "not too" or "not at all concerned." Respondents who express high levels of concern with American dependence on other countries for future energy needs are also more supportive of the proposed wind power project.

The four items (from Table 3) that focus on issues that might affect people in "your area" correlate with one another. Given this, an additive scale was created from the four items [Cronbach's alpha = .67]. The correlation between this scale and opinions about the

Gail Windpower Project is a moderate .35, meaning that individuals who are more concerned about these issues are more supportive of the project and individuals who are less concerned are more opposed to the project.

Perceived knowledge about alternative energy and wind energy does not lead to increased support for the Gail Windpower Project. In fact, respondents who report that they have visited or seen a wind power project express lower levels of support for the proposed project than those who have not. Similarly, opposition to the Gail Windpower Project is highest among those who view themselves as the most knowledgeable about alternative energy, generally, and wind energy, specifically.

Respondents who have talked with other residents in Benzie and Manistee counties about the wind power project are more opposed to the project than those who have not. And, members of the sample who attended the January Open House sponsored by Duke Energy are slightly more likely to be opposed to the project than members of the sample who did not. Similarly, landowners who report that they have been following news about the proposed wind energy project "a great deal" are more likely to be opposed to the project (more than two thirds of them are) than landowners who have been following the news "not too much" or "not at all."

### **Discussion**

CARRS has conducted scores of community surveys since its inception. No survey project has generated as much interest as this one supported by Duke Energy. In fact, several landowners called us to make sure that we had appropriate contact information for them and to ensure that their viewpoints were included in the study.

Such interest is testament to the widespread interest among community members in the proposed Gail Windpower Project. And, this sample of township landowners shows how split the community is on this issue. The number of people who have "no opinion" on the project is relatively low at less than 10 percent. Among people with a point of view, opinion is split almost 50/50, with slightly more landowners opposed to than supportive of the project. It is important to note, however, that sample members who are opposed to the project are more likely to say that they are "definitely opposed," while respondents who favor the project are more likely to say that they "probably support" rather than "definitely support" the wind power project.

In addition, people who report that they are very knowledgeable about alternative energy and wind energy are more likely than the less knowledgeable to be opposed to the project. Similarly, landowners who say that they are following the news about the Gail Windpower Project a great deal and who talk to residents in the area about the project are also more likely to be opponents rather than supporters. In fact, educational level of the respondent is negatively related to project support, as highly educated respondents are more likely than poorly educated respondents to be opposed to the project.

On the other hand, landowners who express a high level of concern about the economic situation in Benzie and Manistee counties and those who are similarly concerned about factors such as American dependence on other countries to provide for future energy needs are most supportive of the Gail Windpower Project.

Finally, it is clear that a majority of landowners in Arcadia, Blaine, Joyfield, and Pleasanton townships give high ratings to the quality of life in this corner of northwest lower Michigan, and those respondents who give the quality of life the highest ratings are the ones

most opposed to the Gail Windpower Project. Interestingly, the chief reason for opposition to the wind power project involves concerns about its impact on the beauty of the area.

While technology may assist with the dampening of noise levels or vibration, people's sense of aesthetics and their concerns about the project's viewshed are not readily amenable to quick or technical fixes.



**The Views of Township Residents  
about Alternative Energy and the  
Gail Windpower Project**

**Mary S. Senter  
May 19, 2011**

## **Methodology**

- Telephone calls in March/April, 2011 to 1,462 landowners in Arcadia, Benzie, Joyfield, and Pleasanton townships; 535 completed interviews
- Print questionnaire mailed to 996 other township landowners; 455 completed questionnaires by April 20

# Property Characteristics

	Percent
Arcadia	34.2
Blaine	21.3
Joyfield	19.2
Pleasanton	30.9
Agricultural	23.6
Residential	76.0
Vacant	18.5
Owned land more than 20 years	49.0



# Property Characteristics

	Percent
Northwest MI primary residence	64.4
Other MI primary residence	22.2
0-8 weeks in MI	29.5
26 or more weeks in MI	47.5
Registered to vote in Benzie/Manistee	58.8

# Demographic Characteristics

	Percent
Male	61.7
Born 1931-50	47.4
Born 1951-70	38.9
College graduate or more education	55.0
Employed full time	39.4
Retired	43.8

# Quality of Life

	Percent
Excellent	52.0
Good	38.5
Fair/Poor	9.2



# Level of "Concerns"

Concern about...	Percent "Very Concerned"
Quality of the environment	67.0
American dependence on other countries	59.4
Economic situation facing Benzle/Manistee residents	59.1
Effects of fossil fuels on the environment	32.3
<b>Biggest concern facing residents</b>	<b>Number</b>
Jobs/the Economy	N=616
Wind energy/wind issues	N=67

# Impact of Wind Power Projects Aspects of Counties

	Percent "No Impact"
Economic situation in the counties	18.5
Property values	20.7
Beauty	25.4
Sound levels	35.0
Wildlife	37.7
Tourism	41.9



# Type of Impact of Wind Power Projects, among Those Perceiving an Impact

	Percent "Negative" or "Very Negative" Impact
Economic situation in the countries	33.6
Property values	79.0
Beauty	86.9
Sound levels	91.1
Wildlife	89.9
Tourism	79.7

# Sources of Information about NW Michigan Issues

	Percent "Often"	Percent "Never"
Friends/neighbors/relatives	42.9	3.6
Television	40.3	12.8
Local newspaper	38.3	13.5
Radio	27.0	22.3
Websites	21.7	30.9

# Information about Wind Power Projects

	Percent "Yes"
Visited or seen wind power project	75.8
Talked about Gail Windpower Project	70.5
Seen "Did You Know?" ads	33.7
Ads prompted website visit for those who had seen ads	27.5
Attended January 16 open house on Gail Windpower Project	9.0



# Knowledge about Wind Power Projects

	Percent "Very knowledgeable"	Percent "Somewhat knowledgeable"
Alternative energy	21.4	61.9
Wind energy	21.2	56.5
Following news about Gail Windpower Project	38.6	36.1

# Opinion about Gail Windpower Project: Percents

	Definitely support	Probably support	Probably oppose	Definitely oppose	Don't know
Total w/ DK	18.6	25.7	16.1	30.6	9.0
Total w/o DK	20.5	28.2	17.7	33.6	--

# Reasons for Support/Opposition: Numbers of Respondents

	Support N	Oppose N
Alternative/clean energy	171	
General support	106	
Economy/jobs/finances	108	
Beauty concerns		127
Noise/sound/vibration		76
General negative		68
Decline in property values		69
Wildlife/birds concerns		46



# Desired Additional Information on Gail Windpower Project

	Number
Location	131
Specific details (e.g., height, noise)	95
More/all information	90
Taxes/subsidies/expenses	80
None/don't know	213

# Predictors of Support and Opposition for Gail Project

	Percent Support	Percent Oppose
Arcadie	36.5	63.5
Blaine	43.6	56.4
Joyfield	53.3	46.7
Pleasanton	63.8	36.2
Agricultural land	58.0	42.0
Residential land	42.7	57.3
Vacant	63.7	36.3



# Predictors of Support and Opposition for Gail Project

	Percent Support	Percent Oppose
Less than h.s. education	66.7	33.3
College graduate	47.3	52.7
Graduate school	33.8	66.2
Very knowledgeable about wind energy	32.8	67.2
Somewhat knowledgeable	52.0	48.0
Not too knowledgeable	57.1	42.9
Not at all knowledgeable	71.4	28.6

# Predictors of Support and Opposition for Gail Project

	Percent Support	Percent Oppose
Visited/seen wind project	47.2	52.8
Talked about project	41.2	58.9
Attended open house	43.2	56.8
Followed news about project "a great deal"	32.6	67.4
"Some"	54.9	45.1
"Not too much"	65.9	34.1
"Not at all"	70.6	29.4

# Predictors of Support and Opposition for Gail Project

	Percent Support	Percent Oppose
"Very concerned" about county economic situation	55.3	44.7
"Somewhat concerned"	44.8	55.2
"Not too concerned"	27.1	72.9
"Very concerned" about American dependence	61.1	38.9
"Somewhat concerned"	34.4	65.6
"Not too concerned"	23.2	76.8



# Predictors of Support and Opposition for Gail Project

	Percent Support	Percent Oppose
"Excellent" quality of life	38.9	61.1
"Good"	56.3	43.7
"Fair"	71.9	28.1
"Poor"	70.6	29.4

# Conclusions

- Great interest/concern in the Gail Windpower Project (and the survey)
- Opponents express stronger opinions than supporters
- Most educated/most knowledgeable are most likely to be opposed
- “Quality of life” and “aesthetic” concerns are more difficult to ameliorate than technical issues regarding power generation.

