

# Are Mainers 'Blown Away' by Wind?

Mario Teisl and Caroline Noblet,  
School of Economics  
Shannon McCoy, Dept. of Psychology

- **Maine Sustainability Solutions Initiative – a.k.a. - MESSI**
  - <http://www.umaine.edu/sustainabilitysolutions/>

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# The Sustainability Behavior Team

## – Faculty

- M. Anderson, G. Hunt, K. Bell, L. Silka (Economics),
- L. Lindenfeld (Communications)
- J. Leahy (Forest Resources)
- L. Forstadt (Cooperative Extension)
- J. Acheson and T. Johnson (Marine Sciences/Anthropology)

## – Student participants:

- Graduate: M. Wibberly, S. Marrinan (M.S.-Economics); K. Hutchins & H. Smith (PhD-Communications); J. Wellman & B. Cosley (PhD-Psychology); S. Dreyer (I-PhD Psych./Econ.)
- Undergraduate: K. Price & M. Fournier (Economics)

## – **Watch for your invitation!**

# The Sustainability Solutions Initiative at UMaine

- Interdisciplinary grant , spearheaded by Mitchell Center and UMaine faculty
  - 5 years, \$20 m (NSF) + \$10 m (State)
  - Partnerships with all other Maine colleges and universities

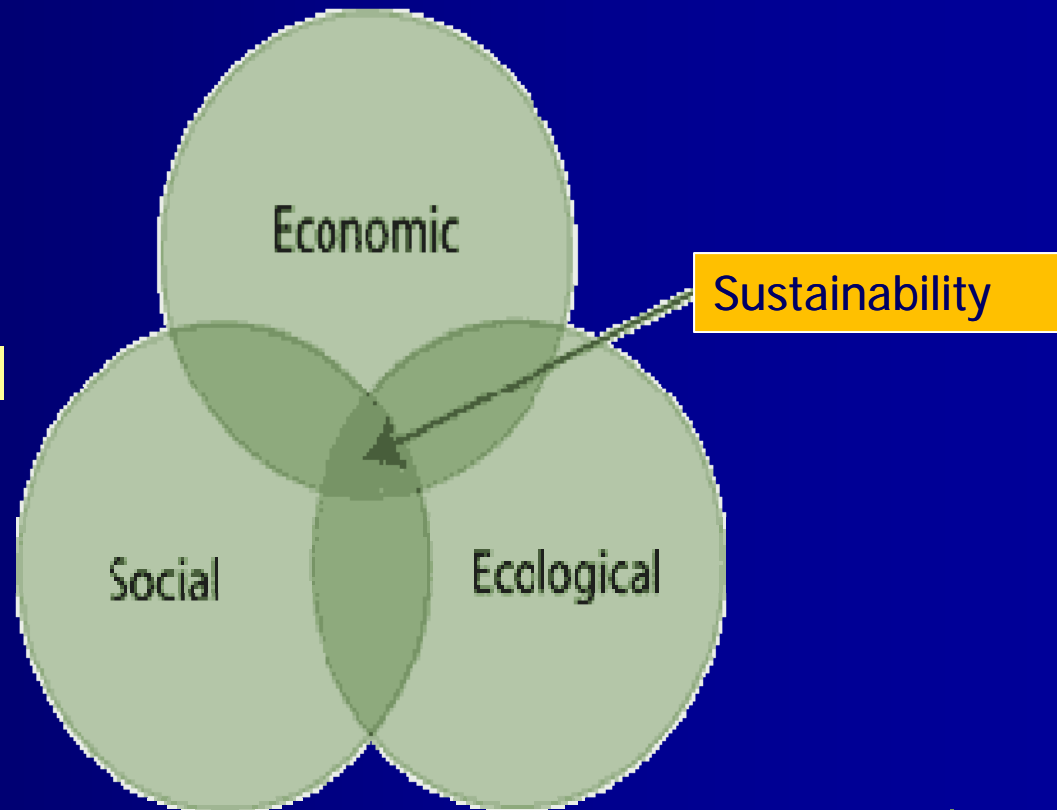
# Approach

- 26 project teams spanning natural and social science disciplines
  - coupled dynamics of social-ecological systems (SES)
- Integrative projects designed to pull disciplines together
- Focus on 'Knowledge to Action'
  - translation of knowledge into informed decision-making

# The Sustainability Solutions Initiative at UMaine

## ■ Focus:

- Economic
- Social
- Ecological



# Survey Methods

# Sampling & Administration

- 1,800: random sample
- 600: oversample: coastal towns
- 600: oversample: 15 mile radius of current/planned land facility
  
- Mail survey: summer 2010
- Two waves; \$1 incentive in 1<sup>st</sup> wave
- Response rate: 48%

# Questionnaire Design

- Background knowledge
- Benefits/concerns of wind power\*
- Information source & trust
- Messaging experiment\*\*
- Economic choice experiment
- Environmental & other behaviors/attitudes\*\*\*
- Demographics

Orange = all respondents

\* = power varies across versions (land; offshore; shallow/deep)

\*\* = information presented varied across versions

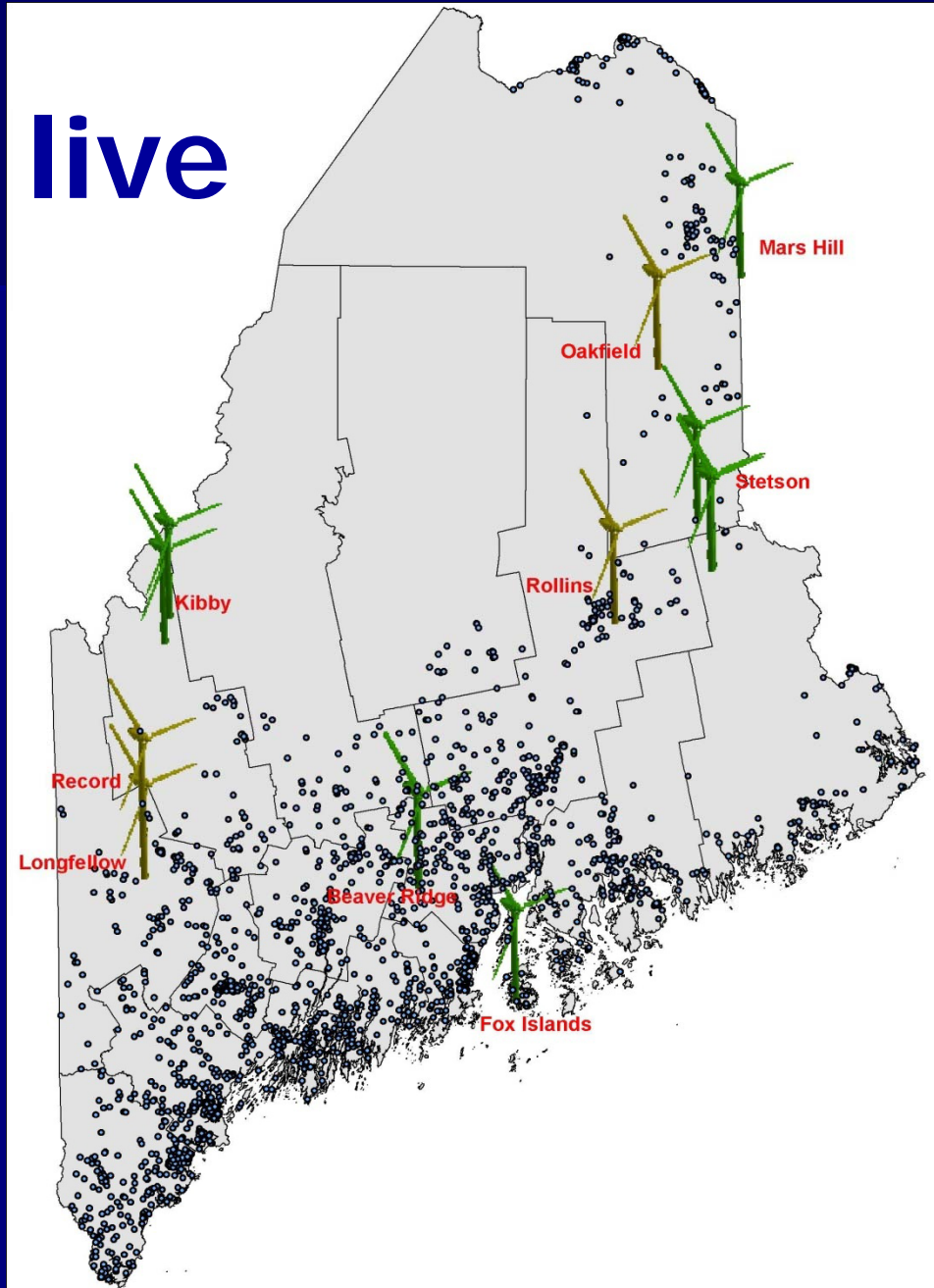
\*\*\* = questions varied across versions



# Respondent Characteristics

- 55% male
- Mean age: 59 years
- Mean income: \$62, 000
- Average education: 1-3 years college
- Lived in Maine: 41 years; at *current* address: 18 years
- 18% belong, contribute or volunteer for an environmental group

# Where they live



# Results: General Knowledge

# What do people know about Maine wind farms?

- 72% (41%) heard (seen) land-based farm
- 82% aware of plans to develop off-shore
  - 73% aware of deep-water plans
  - 69% aware of shallow-water plans
- 4% have voted on a farm related permit, or on a change to their town's ordinances to allow/restrict farms

# What are Mainers concerned about?

- 91% Maine's economy
- 76% Maine's air quality
- 63% global warming effects on Maine
- 59% Maine's dependence on fossil fuels
- 46% national security

# Perceived Benefits

	Land Based	Offshore
Decreases price of electricity	64	62
Decreases Maine's air pollution	64	59
Increases local employment	61	60
Decreases Maine's fossil fuel imports	57	56
Reduces local property taxes	56	54
Decreases global warming	53	51
Maine can export wind power	39	32
Increases tourism near wind farm	17	26

Reduces need for LNG: 32%, Hydro: 31%, Coal 22%

# Perceived Concerns

	Land Based	Offshore
Increases price of electricity	42	51
Lowers local property values	32	18
Increases risk to wildlife	32	34
Increases risks to bird and bat life	31	-
Increases local noise and vibration	29	22
Degrades outdoor/coastal recreation	21	22
Degrades scenic views	21	19
Limits commercial fishing areas	-	32
Disrupts working waterfront	-	24
Increases navigational risks	-	22

# What does this suggest?

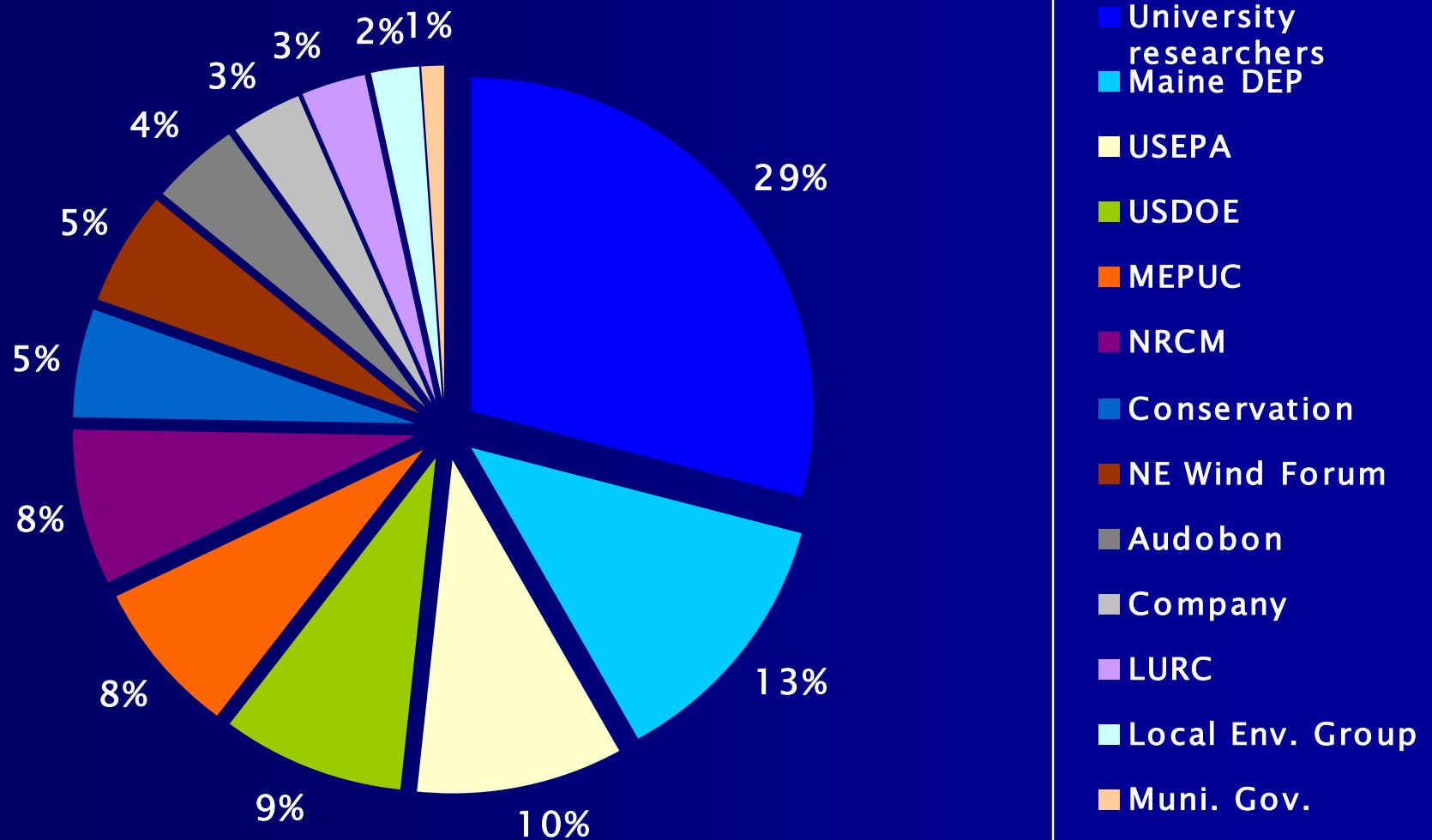
- Citizens perceive similar key *economic* and *environmental* benefits for all types of wind
- Differing impact concerns
  - Perceive potential conflict with existing economic activity (commercial fishing)
- Economic benefits/concerns exceed environmental or national security issues



# Where do Mainers get wind energy information?

- Radio or Television (79%)
- Newspapers (79%)
- Friends/Family/Neighbors etc. (31%)
- Websites (20%)
- Electricity bill or flyer (10%)
- Public meetings (7%)
- Town report (6%)

# Who do Maine citizens trust as a source of information?



University researchers:	Agree
provide unbiased information	94
provide reliable information	91
are fair	89
provide useful information	86
provide understandable information	81
focus on benefits I want to know about	73
are familiar	71
focus on risks I want to know about	64
care about my community	53
share my values	41

Dept of Environmental Protection:	Agree
are familiar	82
care about my community	79
are fair	76
provide reliable information	76
provide understandable information	76
provide useful information	71
focus on benefits I want to know about	62
focus on risks I want to know about	56
provide unbiased information	53
share my values	53

Maine Public Utilities Commission:	Agree
are fair	82
provide reliable information	79
provide unbiased information	78
provide useful information	74
provide understandable information	72
focus on benefits I want to know about	72
are familiar	72
focus on risks I want to know about	61
care about my community	50
share my values	22

# Sources in Maine

- Commonalities:
  - All fair and reliable
  - Lack of focus on specific risks/benefits
- Differences:
  - Unbiased
  - Community caring
  - Familiarity

# How much more information do Mainers want?

- Scale 1 (no more) to 10 (a lot more);  
Average of 6.2
  - 21% would like “a lot more” information
  - 9% would like “no more” information

# What does this suggest?

- Citizens still open to information on wind from *reliable, unbiased* sources
- Media is still a dominant player



# Results: Citizen and Consumer Support

# Support of Wind Power in Maine

- What type of wind-power do Maine citizens support?
  - All wind power equally (42%)
  - Deep water offshore wind (29%) = 71%
  - Land-based wind (20%)
  - Shallow-water wind (6%) = 97%
  - No wind power in Maine (3%)

# Importance of offshore benefits, by support

	All	Shallow	Deep	None
<b>Decreases</b>				
Global warming	49%	47%	49%	23%
Fossil fuel imports	55%	69%	54%	16%
Local property taxes	52%	44%	46%	38%
Price of electricity	67%	55%	53%	38%
Air pollution	52%	66%	52%	15%
<b>Increases</b>				
Fish habitat	30%	50%	30%	23%
Coastal tourism	17%	16%	23%	7%
Employment	58%	61%	60%	23%
Export of wind power	31%	28%	28%	7%

# Importance of offshore concerns, by support

	All	Shallow	Deep	None
<b>Decreases</b>				
Working waterfront	11%	11%	28%	61%
Commercial fishing	21%	17%	27%	77%
Scenic views	11%	11%	18%	54%
Coastal property values	10%	10%	17%	54%
Marine/coastal recreation	11%	11%	23%	54%
<b>Increases</b>				
Navigational risk	11%	11%	21%	61%
Price of electricity	45%	47%	46%	61%
Noise & vibration	14%	16%	27%	61%

# What does this suggest?

- Support for wind reflects similarity in perceived benefits
- Support for deep-water wind driven by concerns similar to wind power rejection

# Will they buy Maine wind power?

- 73% agree they would purchase
- Positively influenced by:
  - Seeing/knowing about wind farms
  - Importance: air quality & employment impacts
- Negatively influenced by:
  - Importance: increased power prices & noise

# Will they buy more or less?

- 95% attempt to reduce electricity use
  - Money savings (80%: very important)
  - Reduce fuel imports (61%: very important)
- 77% feel guilty about wasting energy (agree/strongly agree)

# Wind power and the environment

- 54% agree wind power is good for the environment
- 60% agree they will buy wind power because the environment is not protected
- 50% agree they would buy wind power to protect the environment even if others did not (22% unsure)



# Is wind THE answer for ME?

- 41% agree but 43% are unsure
- 53% think it is good to buy offshore wind power but 41% are unsure

# What does this suggest?

- Optimistic about wind's role in Maine
  - see wind as part of a larger energy picture

# Messaging Results

# Current vs. Future Gains

Developing wind energy in Maine (now) in the future will eventually provide a number of positive environmental and economic benefits.

Wind energy will have an (immediate) impact on the state of Maine in the future by;

- increasing the use of renewable energy,
- producing clean emissions,
- increasing job growth in the state of Maine,
- generating income for our economy.

Learn more about future wind projects in Maine and the environmental and economic benefits we can achieve (right now) in the future from promoting wind energy.

# Messaging questions

- How do you feel about wind energy?
- Is wind power a good solution for our energy problems?
- I would encourage wind power development in Maine.
  
- Is this message persuasive?
- Do you trust this message?
- Is the message informative?
- I plan to learn more about wind.

# What does this suggest?

- Mainers already have relatively stable and positive perceptions of wind power
- However, the message framing, and who you are talking to affects message effectiveness
- In general:
  - Economic > environmental > security argument
  - More specific arguments are better
  - Immediate effects are more important than future
- Economic stress increases the persuasion of the *status quo* message & weakens the *future gains* message

# Next Steps

# What other factors influence perception?

- Proximity to proposed/existing facility
- Maine identity
- Recreational habits
- Existing worldviews
  - New Ecological Paradigm
- Role of the media



# What other factors influence perception?

- Willingness to trade wind energy for other energy production sources in consumer choice
- Laboratory Experiments
  - Impact of aesthetics
  - Reaction to source and messaging
- Stakeholder survey!

*The University of Maine's Sustainability Solutions Initiative invites you to participate in a state-wide survey that gathers information on your:*

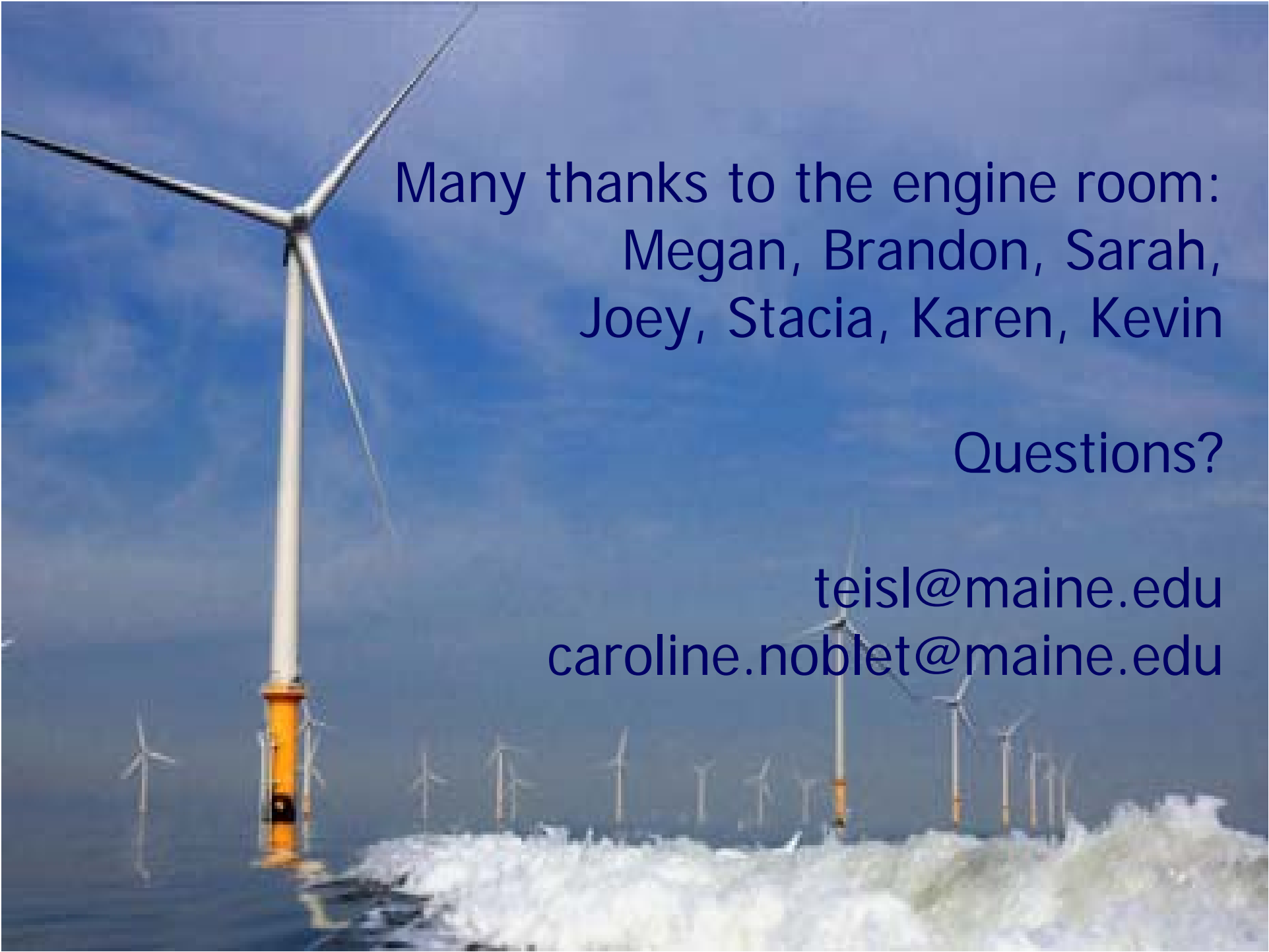
- knowledge of and perceptions toward wind power in Maine*
- resources for information about wind power*
- views of development and environmental issues*

*We value your input which will help Maine make more informed decisions about wind energy.*

*Thank you for taking time to fill out this short, confidential survey and providing your opinions and insights!*

**<http://www.surveymonkey.com/s/Windconference>**

*Log on soon, survey ends on Tuesday, Feb 8 at 5pm!*



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Megan, Brandon, Sarah,  
Joey, Stacia, Karen, Kevin

Questions?

[teisl@maine.edu](mailto:teisl@maine.edu)  
[caroline.noblet@maine.edu](mailto:caroline.noblet@maine.edu)