1-1-2009

Bristol and Portsmouth Informed Opinion Wind Survey

Follow this and additional works at: http://docs.rwu.edu/ebec

Part of the Environmental Sciences Commons

Recommended Citation

http://docs.rwu.edu/ebec/9

This Article is brought to you for free and open access by the East Bay/RWU Information Collaborative at DOCS@RWU. It has been accepted for inclusion in East Bay Energy Consortium Documents by an authorized administrator of DOCS@RWU. For more information, please contact mwu@rwu.edu.
Bristol and Portsmouth Informed Opinion Wind Survey

Conducted May 14 – June 6, 2006 by the Wind Power Rhode Island Project

Funded by the Rhode Island Energy Office

Project Director: Eleftherios Pavlides PhD AIA
Survey Consultant: Jana Hesser, PhD,
Acknowledgements

• Participating residents of Portsmouth and Bristol
• Bristol and Portsmouth Town Councils
• Andrew Dzykewicz, Governor’s Chief Energy Advisor
• Roger Williams University Architecture students and RWU student project assistants
• William Saslow, Raytheon Corporation
• Bristol and Portsmouth Wind Power Committees and Supporters
• Macro International
• Janice Fontes, Data Manager and SAS programmer
Purpose

- Verify support identified in informal surveys and focus groups;
- Inform residents about wind power;
- Learn what information is important to residents for making decisions about wind power;
- Find out what places in Bristol and Portsmouth residents would prefer for wind turbines.
Governor Carcieri and Rhode Island Senate President Montalbano have set a 15% wind electricity goal to reduce electricity rates for Rhode Island consumers.
Methods

- **Informed opinion survey**
  - Provide information to respondents from a number of published sources about Wind Energy.
  - Survey opinion before and after providing information.
  - Statistically representative sample
Surveyed 710 randomly selected registered voters in Bristol (325) and Portsmouth (385)

Margin of error (95% CI) = ± 3.6 percentage points for the full sample, ± 5.4 for Bristol, ± 4.9 for Portsmouth; higher among smaller subgroups

Phone recruitment by professional survey firm;

All respondents answered questions on demographics and position on the state-wide 15% wind electricity initiative.
Methods, cont’d

- 40 facilitated group sessions (~20/session)
- Conducted May 14 - June 6, 2006
- Power point presentation with voice over
- Content based on extensive prior community research
- Self scored questionnaire
- Data analyzed using SAS statistical software
Results from phone survey

- 84% of all persons contacted by phone support the state-wide 15% wind electricity initiative.
- 13% wanted more information.
- 1% oppose wind initiative
Informed Opinion Survey Results

TOPICS:
- Support for wind
- Perceptions before receiving information
- Importance of information
- Perceptions of appearance before and after information
- Support for specific turbine sites
- Reasons to support wind turbines in Bristol/Portsmouth
- Summary -- major findings
Support for wind turbines “within view of your house but far enough away that you cannot hear it” in Bristol and Portsmouth, after receiving detailed economic, technical, environmental, and visual information.

<table>
<thead>
<tr>
<th></th>
<th>Portsmouth</th>
<th>Bristol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support</td>
<td>80.9</td>
<td>79.3</td>
</tr>
<tr>
<td>Neutral</td>
<td>11.4</td>
<td>12.6</td>
</tr>
<tr>
<td>Oppose</td>
<td>5.6</td>
<td>6.1</td>
</tr>
<tr>
<td>Don't know</td>
<td>2.2</td>
<td>2.1</td>
</tr>
</tbody>
</table>

Difference is not statistically significant
Support for wind turbines “within view of your house but far enough away that you cannot hear it” for those who have or have not seen a turbine, after receiving detailed economic, technical, environmental, and visual information.

![Bar chart showing support for wind turbines for those who have or have not seen a turbine.]

Difference is statistically significant p < .01
Perceptions of wind vs. coal prior to receiving detailed economic, technical, environmental, and visual information.

<table>
<thead>
<tr>
<th>Perception</th>
<th>Wind</th>
<th>Coal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Little/no harm for people/animals</td>
<td>90%</td>
<td>6%</td>
</tr>
<tr>
<td>Attractive/beautiful</td>
<td>50%</td>
<td>0%</td>
</tr>
<tr>
<td>Unattractive/ugly</td>
<td>8%</td>
<td>85%</td>
</tr>
<tr>
<td>1&lt;sup&gt;st&lt;/sup&gt;/2&lt;sup&gt;nd&lt;/sup&gt; preferred energy source</td>
<td>80%</td>
<td>1%</td>
</tr>
<tr>
<td>Inexpensive</td>
<td>63%</td>
<td>21%</td>
</tr>
<tr>
<td>Don’t know cost</td>
<td>16%</td>
<td>22%</td>
</tr>
</tbody>
</table>
Percent saying specific information about the practicality of wind energy is “very important” in forming their opinions about wind.

<table>
<thead>
<tr>
<th>Number of items and topic</th>
<th>“Very important”</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 -- increased affordability of wind</td>
<td>88% - 92%</td>
</tr>
<tr>
<td>2 -- adequacy of wind in US and RI</td>
<td>88%, 92%</td>
</tr>
<tr>
<td>4 -- how improved technology lowers cost, and increases productivity</td>
<td>77% - 82%</td>
</tr>
<tr>
<td>2 -- wind as a growth industry</td>
<td>67%, 82%</td>
</tr>
<tr>
<td>1 -- historical significance in RI</td>
<td>41%</td>
</tr>
</tbody>
</table>
Percent saying specific information about the benefits of wind energy is “very important” in forming their opinions about wind.

<table>
<thead>
<tr>
<th>No. of items and topic</th>
<th>“Very important”</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 -- stability of energy costs</td>
<td>94%, 95%</td>
</tr>
<tr>
<td>2 -- economic benefits for the state</td>
<td>77%, 92%</td>
</tr>
<tr>
<td>2 -- health benefits</td>
<td>77%, 82%</td>
</tr>
<tr>
<td>1 -- benefit farmers</td>
<td>81%</td>
</tr>
<tr>
<td>1 -- benefits based on US Army Corps of Engineers Cape Wind report</td>
<td>64%</td>
</tr>
<tr>
<td>1 -- safe for birds</td>
<td>65%</td>
</tr>
</tbody>
</table>
Importance of reducing environmental threats resulting from non-renewable energy sources RI now relies on

- Mercury: 95% Very important
- Acid rain: 93% Very important
- Global warming: 86% Very important
- Hot water discharge: 82% Very important

Legend:
- Very important
- Somewhat important
- Not important
- Need more info
Importance of information about the aesthetics of turbines in forming opinions about wind energy for RI

- Turbines are very quiet
  - Very important: 12%
  - Somewhat important: 83%
  - Not important: 8%
  - Need more info: 2%

- Houses w/ views of turbines increase in value
  - Very important: 29%
  - Somewhat important: 37%
  - Not important: 54%
  - Need more info: 2%

- Turbines can be tourist attractions
  - Very important: 18%
  - Somewhat important: 26%
  - Not important: 54%
  - Need more info: 2%

- Neighbors don't like looks of turbines
  - Very important: 14%
  - Somewhat important: 28%
  - Not important: 55%
  - Need more info: 3%
Personal perception of the appearance of wind turbines before and after seeing turbine images

Before seeing images

- Attractive: 34%
- Beautiful: 15%
- Ugly/unattractive: 8%
- Neither: 39%
- Don't know: 4%

After seeing images

- Attractive: 46%
- Beautiful: 19%
- Ugly: 5%
- Neither: 28%
- Don't know: 1%
Turbine Location:

Bristol Town Beach

- 71 Support
- 12 Neutral
- 16 Oppose
- 1 Don't know

- 64 Support
- 15 Neutral
- 15 Oppose
- 6 Don't know

- 56 Support
- 19 Neutral
- 13 Oppose
- 12 Don't know
Turbine Location:
Bristol Town Dump
From Rt. 136

Support | Neutral | Oppose | Don't know
--------|---------|--------|-----------
Bristol residents | 81 | 12 | 11 | 2
Both towns | 76 | 13 | 5 | 6
Portsmouth residents | 69 | 15 | 4 | 12
**Turbine Location**: Kaiser

- **Bristol residents**:
  - Support: 42
  - Neutral: 29
  - Oppose: 27
  - Don't know: 2

- **Both towns**:
  - Support: 43
  - Neutral: 28
  - Oppose: 21
  - Don't know: 6

- **Portsmouth residents**:
  - Support: 44
  - Neutral: 26
  - Oppose: 15
  - Don't know: 14

*Legend: Support ✈ Neutral ⛰ Oppose 🔢 Don't know 🚔*
Turbine Location:
RWU Campus – Tennis Courts
### Level of support for proposed turbine sites in Bristol

<table>
<thead>
<tr>
<th>Location</th>
<th>Bristol residents</th>
<th>Portsmouth residents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haffenreffer</td>
<td>84%</td>
<td>77%</td>
</tr>
<tr>
<td>RWU</td>
<td>79%</td>
<td>77%</td>
</tr>
<tr>
<td>Bristol town dump</td>
<td>76%</td>
<td>69%</td>
</tr>
<tr>
<td>Bristol town beach</td>
<td>64%</td>
<td>56%</td>
</tr>
<tr>
<td>Kaiser plant</td>
<td>43%</td>
<td>44%</td>
</tr>
</tbody>
</table>
Support for wind turbines “within view of your house but far enough away that you cannot hear it” among those living or not living near a proposed site in Bristol, 2006 (Bristol only).

**Support**
- Live near site: 80%
- Not live near site: 78%

**Neutral**
- Live near site: 13%
- Not live near site: 10%

**Oppose**
- Live near site: 5%
- Not live near site: 10%

**Don't know**
- Live near site: 2%
- Not live near site: 2%

Difference is not statistically significant.
Importance of reasons to support one or more turbines in Bristol, 2006

- **Economics:** Important: 95%, Not important: 2%, Don't know: 3%
- **Environment:** Important: 96%, Not important: 2%, Don't know: 3%
- **Health:** Important: 92%, Not important: 3%, Don't know: 4%
- **Looks:** Important: 53%, Not important: 43%, Don't know: 4%
- **Pride:** Important: 57%, Not important: 3%, Don't know: 40%
Turbine Location: Portsmouth High School

Support Neutral Oppose Don't know

Portsmouth: 91 3 5 1
Both: 81 10 3 6
Bristol: 72 16 2 10
Turbine Location:
Portsmouth Middle School

- Portsmouth: 88 (Support), 4 (Neutral), 6 (Oppose), 1 (Don't know)
- Both: 77 (Support), 12 (Neutral), 4 (Oppose), 7 (Don't know)
- Bristol: 67 (Support), 19 (Neutral), 2 (Oppose), 12 (Don't know)
Turbine Location: Portsmouth Abbey

- Portsmouth: 90 support, 5 neutral, 3 oppose, 2 don't know
- Both: 86 support, 6 neutral, 2 oppose, 6 don't know
- Bristol: 83 support, 7 neutral, 1 oppose, 9 don't know
Turbine Location:

Tank Farm -- No picture

- Portsmouth: 79 Support, 6 Neutral, 3 Oppose, 13 Don't know
- Both: 67 Support, 7 Neutral, 2 Oppose, 24 Don't know
- Bristol: 57 Support, 8 Neutral, 1 Oppose, 34 Don't know
**Turbine Location**: Raytheon

![Bar chart showing support, neutral, oppose, don't know responses for different locations.]

- **Portsmouth**: 91, Support - 3, Neutral - 3, Oppose - 3, Don't know - 5
- **Both**: 88, Support - 5, Neutral - 1, Oppose - 5, Don't know - 7
- **Bristol**: 85, Support - 7, Neutral - 0, Oppose - 8, Don't know - 0
# Level of support for proposed turbine sites in Portsmouth

<table>
<thead>
<tr>
<th>Location</th>
<th>Portsmouth residents</th>
<th>Bristol residents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portsmouth High School</td>
<td>91%</td>
<td>72%</td>
</tr>
<tr>
<td>Raytheon</td>
<td>91%</td>
<td>85%</td>
</tr>
<tr>
<td>Portsmouth Abbey</td>
<td>90%</td>
<td>83%</td>
</tr>
<tr>
<td>Portsmouth Middle School</td>
<td>89%</td>
<td>67%</td>
</tr>
<tr>
<td>Tank Farm</td>
<td>79%</td>
<td>57%</td>
</tr>
</tbody>
</table>
Support for wind turbines “within view of your house but far enough away that you cannot hear it” among those living or not living near a proposed site in Portsmouth, 2006 (Portsmouth only)

<table>
<thead>
<tr>
<th>Support</th>
<th>Live near proposed wind turbine site</th>
<th>Not live near proposed wind turbine site</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oppose</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Neutral</td>
<td>8</td>
<td>13</td>
</tr>
<tr>
<td>Don't know</td>
<td>0.3</td>
<td>3</td>
</tr>
<tr>
<td>Support</td>
<td>85</td>
<td>79</td>
</tr>
</tbody>
</table>

Difference is statistically significant p < .001
Importance of reasons to support one or more turbines in Portsmouth, 2006

- Economics: Important 91%, Not important 5%, Don't know 3%
- Health: Important 92%, Not important 4%, Don't know 2%
- Environment: Important 94%, Not important 2%, Don't know 4%
- Looks: Important 57%, Not important 37%, Don't know 5%
- Pride: Important 54%, Not important 41%, Don't know 6%
Importance of looks as a reason to support or oppose a wind turbine “within view of your house but far enough away that you cannot hear it”.

56% of respondents consider looks an important reason to support or oppose wind. Of these, only 6% oppose wind, while 79% support wind.
Major Findings

- 80% of respondents support or strongly support installation of wind turbines in both communities.
- Results close to Bristol referendum results of 76%.
- Only a small proportion of respondents (7.5%) oppose installation of wind turbines.
- Results substantiate results of prior informal studies indicating very high level of support for turbines in these communities.
- Most sites in both towns enjoy overwhelming support.
Major Findings, cont’d

- Those who have seen a working turbine are more supportive of them.
- To the extent the looks of turbines are important, they are much more of an asset than a detriment.
- Having specific information about different aspects of wind energy, from cited sources, is very important in making decisions about wind energy.
Thank You!

Additional information on the survey will be posted at:
www.windri.org
Demographics of weighted samples, Bristol/Portsmouth registered voters, 2006

* Difference is statistically significant $p<.01$
Demographics of weighted samples, Bristol/Portsmouth registered voters, 2006

- **Home**:
  - Bristol: 82 own, 18 rent
  - Portsmouth: 90 own, 11 rent

- **Employment**:
  - Bristol: 57 employed, 27 retired, 16 other
  - Portsmouth: 61 employed, 24 retired, 15 other

- **Seen turbine**:
  - Bristol: 73 seen, 27 not seen
  - Portsmouth: 92 seen, 7 not seen

* Difference is statistically significant p<.0001
Support for wind turbines “within view of your house but far enough away that you cannot hear it” among males and females, 2006 (Bristol/Portsmouth combined)

- Support: 85.5% (Female), 75.5% (Male)
- Neutral: 10.3% (Female), 13.5% (Male)
- Oppose: 3.3% (Female), 8% (Male)
- Don't know: 1% (Female), 3.1% (Male)

Difference is statistically significant p < .04
Support for wind turbines Bristol beach among those living or not living near Bristol beach, 2006 (Bristol only)

- **Support**: 69% live near Bristol beach, 72% not live near Bristol beach.
- **Neutral**: 13 live near Bristol beach, 11 not live near Bristol beach.
- **Oppose**: 17 live near Bristol beach, 16 not live near Bristol beach.
- **Don't know**: 1 live near Bristol beach, 1 not live near Bristol beach.

Difference is not statistically significant.
Support for wind turbines near Kaiser plant among those living or not living near Kaiser, 2006 *(Bristol only)*

- **Support**: 40% (Live near Kaiser), 44% (Not live near Kaiser)
- **Neutral**: 25% (Live near Kaiser), 32% (Not live near Kaiser)
- **Oppose**: 33% (Live near Kaiser), 22% (Not live near Kaiser)
- **Don't know**: 3% (Live near Kaiser), 1% (Not live near Kaiser)

Difference is statistically significant, p < .0001
Perception of harm posed for people and animals by major sources of electric energy, before receiving detailed economic, technical, environmental, and visual information.
Perception of looks of major sources of electric energy, before receiving detailed economic, technical, environmental, and visual information.
Preference ranking for sources of electric energy, before receiving detailed economic, technical, environmental, and visual information.

![Preference ranking chart]

- **Wind**: 81% (1st or 2nd preferred), 13.5% (3rd/4th preferred), 3.4% (least preferred), 1.4% (don't know)
- **Solar**: 65.1% (1st or 2nd preferred), 46% (3rd/4th preferred), 7.1% (least preferred)
- **Hydroelectric**: 46% (1st or 2nd preferred), 30.3% (3rd/4th preferred), 25.7% (least preferred)
- **Nuclear**: 53% (1st or 2nd preferred), 10% (3rd/4th preferred), 9.4% (least preferred)
- **Gas/oil**: 50.9% (1st or 2nd preferred), 36.2% (3rd/4th preferred), 9.4% (least preferred)
- **Coal**: 79.5% (1st or 2nd preferred), 13.9% (3rd/4th preferred), 1.4% (least preferred)

1st or 2nd preferred | 3rd/4th preferred | Least preferred | Don't know
Importance of information about the practicality of wind energy in forming opinions about wind energy in RI

- RI enuf wind: 92% very important, 5% somewhat important, 2% not important, 3% need more info
- Less expensive: 91% very important, 5% somewhat important, 2% not important, 3% need more info
- US enuf wind: 88% very important, 7% somewhat important, 1% not important, 4% need more info
- Fastest growing energy source: 82% very important, 14% somewhat important, 2% not important, 4% need more info
- GE > investment: 67% very important, 30% somewhat important, 6% not important, 7% need more info
- Historically significant: 41% very important, 30% somewhat important, 26% not important, 3% need more info
Importance of information about the practicality of wind energy in forming opinions about wind energy in RI

- Wind costs less: 92%
- Tech innovations reduce cost: 88%
- 1/6th cost of solar: 88%
- Tall towers = more energy: 82%
- Larger turbines lowers cost: 78%
- Larger blades = more energy: 77%

Legend:
- Very important
- Somewhat important
- Not important
- Need more info
Importance of information about the benefits of wind energy in forming opinions about wind energy in RI

- Stable price: 95%
- Keep electricity costs down: 94%
- Reduce pollution/avoid sanctions: 92%
- Save $26 million in health costs: 85%
- Avert 2028 asthma attacks /yr: 84%

Legend:
- Very important
- Somewhat important
- Not important
- Need more info
Conclusion

- There is no controversy about public support for the placement of turbines in Bristol and Portsmouth.
Importance of information about the benefits of wind energy in forming opinions about wind energy in RI

- Extra income from leasing land helps farmers: 81%
- Will generate jobs in RI: 77%
- Calculation of benefits based on US Army Corps Cape Wind report: 64%
- Are safe for birds: 65%

Very important: Blue
Somewhat important: Turquoise
Not important: Light brown
Need more info: Red