Preview of 2016 survey results
Marylanders’ Attitudes and Policy Preferences on Climate Change

| August 24 2016 | Brown Bag |
| Maryland Maryland Department of the Environment | Baltimore, Maryland |

Karen Akerlof, PhD, Research Assistant Professor
Research for the Consortium, 2012-2016

1) Statewide mail surveys (2013-2016)
   - Reports: Public health, energy, climate, sea level rise and adaptation

2) Community surveys (door-to-door) in vulnerable communities (2016)

3) Message testing (2013-2016)
   - Maryland scientists on climate consensus; MDE climate videos; promoting renewable energy in faith communities; GGRA language
All resources freely available at climatechange.gmu.edu

* peer-reviewed articles, reports, presentations

Survey Reports

We assist Maryland's state agencies, local governments, non-profits, and universities by providing audience, messaging, and evaluation research.

- U.S. Media Reporting of Sea Level Rise and Climate Change Coverage in National and Local Newspapers, 2001-2015
  We turned our attention to the news media to see how much reporting on sea...

- Public Perceptions of Climate Change: A Maryland Statewide Survey, Fall 2015
  For the past three years, we have been asking Maryland residents questions about their understanding...

- Public Knowledge, Behaviors and Preferences About Energy: A Maryland Statewide Survey, Fall 2015
  For the past three years, we have been asking Marylanders questions about their preferences.
Public Perceptions of Climate Change
A Maryland Statewide Survey | Fall 2016

Public Knowledge, Behaviors & Preferences about Energy
A Maryland Statewide Survey | Fall 2016

Public Health, Energy & Climate Change
A Maryland Statewide Survey | Fall 2016

Perceptions of Community Resilience
A Maryland Community Pilot Study | 2016

2016 reports | Release dates, early October

CLIMATE
ENERGY & TRANSPORT
HEALTH & CLIMATE
COMMUNITY RESILIENCE
Maryland public opinion | What we have learned

1) Climate change is perceived as a real issue—more so here than to the nation as a whole.
2) Climate and energy policies are high priorities— but not as high as jobs and air/water pollution generally.
3) Support for renewable energy is high.
4) Marylanders favor government action to protect communities.
Today’s discussion | Preview of 2016 data

1) Climate
2) Health & climate
3) Energy
4) Community resilience
What do you think?

What percentage of Marylanders say that climate change is happening?
Most agree climate change is happening

Climate change certainty, 2013-2016
Do you think that climate change is happening? If you answered either yes or no, how sure are you?

Maryland-77%/79%
Nationally-70%

Unweighted base, n=2,126 (2013); n=2,035 (2014); n=1,547 (2015); n=907 (2016)
... and that humans are playing a role

Climate change causation, 2014-2016
If you think climate change is currently happening, what do you think is causing it?

Unweighted base, n=2,126 (2013); n=2,035 (2014); n=1,547 (2015)
Marylanders demonstrate high support for state transportation policies

Transportation policy awareness and support, 2016
Maryland has begun implementing policies to alleviate road congestion on highways and improve air quality. For each of the following policies, please answer two questions: Have you heard of this policy? How

Walking/biking access - 77%
Less polluting vehicles - 74%
Public transportation - 71%

2016 data
... and energy policies

Energy policy awareness and support, 2016
Maryland has begun implementing policies to promote new sources of energy and use energy more efficiently. For each of the following policies, please answer two questions: Have you heard of this policy? How much do you support or oppose this policy?

Energy efficiency rebates-83%
Renewable energy incentives-78%
Smart grid-77%; RPS-75%

Unweighted base, n=907 (2016)
... but climate remains a relatively lower priority
Marylanders are unsure that the GGRA will produce economic gains

Maryland is required to evaluate the economic impacts, including to jobs and industry, of its energy and greenhouse gas reduction policies that are collectively called the “Greenhouse Gas Reduction Plan.” How likely do you think it is that these policies will accomplish the following?

- The policies will generate between $2.5 billion and $3.5 billion in total economic benefits by 2020.
- The policies will create or maintain 26,000 to 33,000 jobs by 2020.
- There will be no projected impacts from these policies on Maryland’s manufacturing industries.

2016 data
Marylanders believe stricter environmental laws have costs—and benefits

2016 data
About half are unfamiliar with “Smart Grids”

Have you ever heard the term, “Smart Grid,” in referring to new ways to generate and manage electricity?

- No, 39%
- Yes, 48%
- Don’t know, 13%

n=907 (2016)

2016 data
Most Marylanders welcome Smart Grid changes

Smart Grids will mean some changes for consumers. How likely would you be to...

<table>
<thead>
<tr>
<th>Change</th>
<th>Not applicable</th>
<th>Very unlikely</th>
<th>Somewhat unlikely</th>
<th>Somewhat likely</th>
<th>Very likely</th>
<th>Already done</th>
</tr>
</thead>
<tbody>
<tr>
<td>welcome installation of a Smart Meter.</td>
<td>8%</td>
<td>10%</td>
<td>9%</td>
<td>11%</td>
<td>18%</td>
<td>22%</td>
</tr>
<tr>
<td>change the timing of activities that use a lot of electricity, like clothes drying, to take advantage of lower electricity costs at night.</td>
<td>3%</td>
<td>9%</td>
<td>5%</td>
<td>11%</td>
<td>25%</td>
<td>36%</td>
</tr>
<tr>
<td>buy “smart appliances” that automatically reduce energy use during high demand.</td>
<td>6%</td>
<td>10%</td>
<td>24%</td>
<td>27%</td>
<td>19%</td>
<td>31%</td>
</tr>
<tr>
<td>install solar panels either for your home or within your community and sell energy back to the utility.</td>
<td>12%</td>
<td>27%</td>
<td>17%</td>
<td>19%</td>
<td>21%</td>
<td>17%</td>
</tr>
<tr>
<td>volunteer to automatically lower energy use during high demand in return for lower bills.</td>
<td>4%</td>
<td>11%</td>
<td>27%</td>
<td>19%</td>
<td>21%</td>
<td>17%</td>
</tr>
</tbody>
</table>

2016 data
n=907

More than 70% say they already do, or are likely, to take actions
Few are worried about Smart Meter privacy or harm

How strongly do you disagree or agree with the following statements?

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Agree</th>
<th>Somewhat Agree</th>
<th>Somewhat Disagree</th>
<th>Strongly Disagree</th>
<th>Don't Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>My home energy choices affect our health and environment.</td>
<td>31%</td>
<td>25%</td>
<td>20%</td>
<td>11%</td>
<td>10%</td>
</tr>
<tr>
<td>I am worried that Smart Meters threaten people’s privacy.</td>
<td>10%</td>
<td>23%</td>
<td>28%</td>
<td>19%</td>
<td>16%</td>
</tr>
<tr>
<td>I am worried that Smart Meters may be harmful.</td>
<td>10%</td>
<td>24%</td>
<td>35%</td>
<td>6%</td>
<td>8%</td>
</tr>
<tr>
<td>Variable electricity rates at different times of day will help me lower my energy bills.</td>
<td>10%</td>
<td>24%</td>
<td>35%</td>
<td>6%</td>
<td>8%</td>
</tr>
<tr>
<td>I can’t afford to install solar panels even if I could sell the electricity back to the utility.</td>
<td>10%</td>
<td>24%</td>
<td>35%</td>
<td>6%</td>
<td>8%</td>
</tr>
<tr>
<td>Generating my own energy is appealing to me.</td>
<td>31%</td>
<td>37%</td>
<td>37%</td>
<td>31%</td>
<td>9%</td>
</tr>
</tbody>
</table>

2016 data  

n=907

Most would like to generate their own energy (68%), but say they can’t afford solar panels (57%)
Public Health, Energy & Climate Change

A Maryland Statewide Survey | Fall 2016

George Mason University
Johns Hopkins Bloomberg School of Public Health
Marylanders see climate change as a personal health risk, but more so air and water pollution.

Perceptions of personal health risks, 2013-2016
Below is a list of potential risks to people’s health and well-being. How much of a risk do you feel each of the following poses to your health and well-being?

Air pollution - 81%
Climate change - 59%
Marylanders perceive fossil fuels and nuclear energy as harmful to their health

Perceptions of energy source health harms, 2013-2016
Please rate each of the following sources of electrical energy in terms of how harmful they are to people’s health.

- **Coal**: 73%
- **Oil**: 65%
- **Nuclear**: 57%
... and about half say they are willing to pay more for renewables

2016 data
Perceptions of Community Resilience

A Maryland Community Pilot Study | 2016
Marylanders *consistently* support local and state government action to protect their communities.

Support for local and state adaptation, 2013-2016

How much do you support or oppose state and local governments taking action to protect your community against harm caused by climate change (if any)?

- 2013: 75%
- 2014: 14%
- 2015: 12%
- 2016: 12%

*Unweighted base, n=2,126 (2013); n=2,035 (2014); n=1,547 (2015); n=907 (2016)*
Concerns span across populations

Article
Vulnerable Populations Perceive Their Health as at Risk from Climate Change

Karen L. Akerlof 1,*, Paul L. Delamater 2, Caroline R. Boules 1, Crystal R. Upperman 3 and Clifford S. Mitchell 4

Received: 14 September 2015; Accepted: 26 November 2015; Published: 5 December 2015
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Abstract: Climate change is already taking a toll on human health, a toll that is likely to increase in coming decades. The relationship between risk perceptions and vulnerability to climate change’s health threats has received little attention, even though an understanding of the dynamics of adaptation among particularly susceptible populations is becoming increasingly important. We demonstrate that some people whose health will suffer the greatest harms from climate change—due to social vulnerability, health susceptibility, and exposure to hazards—already feel they are at risk. In a 2013 survey we measured Maryland residents’ climate beliefs, health risk perceptions, and demographic and health characteristics. A hierarchical linear model was used to examine the relationship between health risk perceptions and climate beliefs. Results indicate that risk perceptions of being vulnerable to climate change are positively related to health beliefs about climate change. Differences in perception exist across demographic and health characteristics.
Baltimore and Prince George’s communities are concerned about climate

How likely do you think it is that climate change will cause significant harm to your community within the next several years?

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Sandtown-Winchester, Oliver-Broadway East, Westport (Baltimore)</th>
<th>Glassmanor-Oxon Hill (Prince George’s County)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>8%</td>
<td>8%</td>
</tr>
<tr>
<td>10%</td>
<td></td>
<td>9%</td>
</tr>
<tr>
<td>20%</td>
<td>12%</td>
<td>8%</td>
</tr>
<tr>
<td>30%</td>
<td>14%</td>
<td>14%</td>
</tr>
<tr>
<td>40%</td>
<td>30%</td>
<td>27%</td>
</tr>
<tr>
<td>50%</td>
<td>27%</td>
<td>34%</td>
</tr>
<tr>
<td>60%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>70%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>80%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>90%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>100%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2016 data
Baltimore and Prince George’s communities support protective government actions

How much do you support or oppose state and local governments taking action to protect your community against harm caused by climate change (if any)?

<table>
<thead>
<tr>
<th>Location</th>
<th>Strongly support</th>
<th>Somewhat support</th>
<th>Somewhat oppose</th>
<th>Strongly oppose</th>
<th>Don't know</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sandtown-Winchester, Oliver-Broadway East, Westport (Baltimore)</td>
<td>39%</td>
<td>30%</td>
<td>22%</td>
<td>6%</td>
<td>9%</td>
</tr>
<tr>
<td>Glassmanor-Oxon Hill (Prince George’s County)</td>
<td>28%</td>
<td>20%</td>
<td>22%</td>
<td>5%</td>
<td>7%</td>
</tr>
<tr>
<td>State of Maryland</td>
<td>47%</td>
<td>28%</td>
<td>12%</td>
<td>7%</td>
<td>7%</td>
</tr>
</tbody>
</table>

2016 data
Energy assistance, efficiency, and local resilience efforts are topics of interest.

2016 data
Maryland public opinion | What we have learned

1) Climate change is perceived as a real issue—more so here than to the nation as a whole.

2) Climate and energy policies are high priorities—but not as high as jobs and air/water pollution generally.

3) Support for renewable energy is high.

4) Marylanders favor government action to protect communities.

5) Public opinion is generally supportive but there are softer areas in which communication/education is still needed.
#1. Energy education
People perceive fossil fuels as harmful, but many don’t know where their electricity comes from

**Reality**
The two largest sources of Maryland’s electricity generation are **coal-fired (40%)** and **nuclear (40%)** power plants with **natural gas (15%)** a distant third.

**Perception**

2015 data
#2. Economic discussion
People are unsure of the economic impacts of energy policies

Maryland is required to evaluate the economic impacts, including to jobs and industry, of its energy and greenhouse gas reduction policies that are collectively called the “Greenhouse Gas Reduction Plan.” How likely do you think it is that these policies will accomplish the following?

- The policies will generate between $2.5 billion and $3.5 billion in total economic benefits by 2020.  
- The policies will create or maintain 26,000 to 33,000 jobs by 2020.
- There will be no projected impacts from these policies on Maryland’s manufacturing industries.

2016 data
#3. Talk about the scientific and social consensus
Perceptions of public dissension are high

To the best of your knowledge, what percentage of the following people think climate change is happening?

- **People in my region of Maryland** (Western, Central, Southern, Eastern counties)
  - 10% (81 to 100%)
  - 18% (61 to 80%)
  - 23% (41 to 60%)
  - 30% (21 to 40%)
  - 6% (0 to 20%)
  - Don’t know

- **Maryland residents (statewide)**
  - 8% (81 to 100%)
  - 20% (61 to 80%)
  - 30% (41 to 60%)
  - 14% (21 to 40%)
  - 6% (0 to 20%)
  - Don’t know

- **People in the United States**
  - 9% (81 to 100%)
  - 18% (61 to 80%)
  - 14% (41 to 60%)
  - 26% (21 to 40%)
  - 6% (0 to 20%)
  - Don’t know

- **Climate scientists**
  - 53% (81 to 100%)
  - 4% (61 to 80%)
  - 4% (41 to 60%)
  - 3% (21 to 40%)
  - 3% (0 to 20%)
  - Don’t know

2016 data
#4. Include underserved communities in the discussion

2016 data

Would you like any additional information about some of the topics below?

- Protection against heat waves: 12%, 13%
- Flooding protection: 13%, 14%
- Energy fuel choice and health: 18%, 17%
- Home energy efficiency: 37%
- Energy bill assistance: 28%
- Baltimore resiliency hubs/Transforming Neighborhoods Initiative: 22%
- Home and community renewable energy generation: 18%
- Sandtown-Winchester, Oliver-Broadway East, Westport (Baltimore)
- Glassmanor-Oxon Hill (Prince George's County)

n=228, n=111
Maryland public opinion | Moving forward

#1. Energy education
#2. Economic discussion
#3. Talk about the scientific and social consensus
#4. Include underserved communities in the discussion
Thank you to Town Creek Foundation of Easton, Maryland for its support, Maryland Department of Health and Mental Hygiene for its partnership on the 2013 and 2014 surveys, and Johns Hopkins Bloomberg School of Public Health on the 2015 and 2016 surveys.

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