The 2015 National Energy and Utility Affordability Conference

Engaging Low Income Consumers Around The Smart Grid

Patty Durand, Executive Director
Smart Grid Consumer Collaborative
501(c)(3) nonprofit formed in March 2010

Driven by the mission to advance a consumer-friendly, consumer-safe smart grid

Membership organization comprised of 120+ utilities, technology vendors and nonprofit affiliates

We work by listening, educating, and collaborating
Spotlight on Low Income Consumers II

Motivations and Emotions of Engaged Consumers
Energy Management Technology
I have a fairly complete understanding of what it is, how it would work, and how it would affect homes and businesses

I have a basic understanding of what it is and how it would work

I've heard the term, but don't know much about what it means

I have not heard that term

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Current Level of Knowledge of…

**Smart Grid**

I have a fairly complete understanding of what it is, how it would work, and how it would affect homes and businesses: 7%

I have a basic understanding of what it is and how it would work: 18%

I've heard the term, but don't know much about what it means: 22%

I have not heard that term: 51%

**Smart Meter**

I have a fairly complete understanding of what it is, how it would work, and how it would affect homes and businesses: 10%

I have a basic understanding of what it is and how it would work: 20%

I've heard the term, but don't know much about what it means: 22%

I have not heard that term: 46%

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n =

- Wave 5: 1,004
- Wave 1: 1,234
Which, if any, of the following devices are installed or used in or at your home?

- Programmable thermostat
- Smart meter
- Smart appliances
- All-electric or plug-in hybrid vehicle
- Rooftop solar system
- Home energy management unit
- Solar water heater
- Hot water heater
- All other comments

Under Half the Low Income Consumers Report Using Some Type of Smart Grid-Related Technology

Total: n=525; Owners: n=292; Renters: n=233
How Convenient is Smart Grid Technology to Manage Household Energy Usage?

Low income consumers are split on whether smart grid technology is convenient to use.

- Convenient (8,9,10): 29%
- Neutral (3,4,5,6,7): 41%
- Inconvenient (0,1,2): 30%

n=81
Some have reduced usage based on information from smart meters and energy management technology.

<table>
<thead>
<tr>
<th></th>
<th>Total Sample</th>
<th>Homeowners</th>
<th>Renters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes, information has reduced household energy usage</td>
<td>25%</td>
<td>17%</td>
<td>37%</td>
</tr>
<tr>
<td>$n$</td>
<td>76</td>
<td>46</td>
<td>30</td>
</tr>
</tbody>
</table>
Low Income Consumers Focus on Reliability and Value Multiple Benefits

Low income consumers say the most important smart grid and smart meter benefit: **Prevents some outages and reduces the length of others.**

All seven smart grid and smart meter benefits tested are important to at least 74% of low income consumers.

- Smart grid reduces greenhouse gas emissions
- A smart grid senses problems and reroutes power automatically.
- Smart grid and smart meters make it easier for utilities to offer new kinds of rate plans to help customers manage energy usage and cost.
Energy Efficiency
Renters More Often Participate in Energy Efficiency Programs than Homeowners

Participation in Energy Efficiency Programs
(Renters vs. Owners)

Renters (n=144) 53%
Owners (n=169) 29%

Base: those aware of programs
But Renters Face More Barriers to Energy Efficiency than Homeowners

Are you allowed to make energy efficiency changes to your home?

- Allowed: 19%
- Unsure: 24%
- Not Allowed: 57%
Participation in Programs Has Limited Impact on Making Changes to Increase Energy Efficiency

Signed Up or Participated in Energy Efficiency (EE) Programs
(Those Who Made EE Change vs. No EE Change)

- No EE Change Group (n=160)
  - 43%

- Made EE Change Group (n=153)
  - 37%

U3 Have you or your household signed up for or participated in one or more of these energy efficiency programs?

U5 Have you made any changes to your home, your appliances, insulation, or other areas to increase your household’s energy efficiency?
Payment Methods and Challenges
Which of the following answers best describes the typical method of payment for your household's electric bill?

- **Cash**: 41%
- **Check**: 38%
- **Bank draft**: 13%
- **Debit card**: 12%
- **Credit card**: 6%
- **Money order**: 3%
- **Online banking**: 3%
- **Auto withdrawal from bank account**: 2%
- **All other comments**: 1%

*n=436*
Substantial Minorities of Households Have Payment Challenges

Unable to Pay Full Amount of Utility Bill at Least Once in Past Year

- Yes, 30%
- No, 70%

Missed Any Utility Bill Payments in Past Year

- Yes, 22%
- No, 78%

Source: SGCC Spotlight on Low Income Consumers II (2014)
Low Income Consumers’ Payment Shortfall Was Usually Under $200

Low-Income Consumers’ Average Payment Shortfall on Electricity Bill Per Month

- Under $100: 39%
- $100-$199: 40%
- $200-$299: 8%
- $300 or more: 13%

Median: $100

n=136

P14 So that we can compare your household to others in the same situation around the U.S. what would you say is the average number of dollars you were unable to pay per month when your household could not pay the entire monthly electric bill?
The Vast Majority of Low Income Consumers Are Not Receiving Assistance or Using Programs To Help Manage Energy Costs

Assistance, Payment, and Pricing Plans through Utility

<table>
<thead>
<tr>
<th>Assistance</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>from electric supplier n=525</td>
<td>10%</td>
</tr>
<tr>
<td>from agency/other group n=520</td>
<td>8%</td>
</tr>
<tr>
<td>Level-pay plan n=497</td>
<td>18%</td>
</tr>
<tr>
<td>Time-of-use-plan n=402</td>
<td>8%</td>
</tr>
<tr>
<td>Prepay plan n=496</td>
<td>4%</td>
</tr>
</tbody>
</table>

P1  Does your household receive any kind of financial assistance or discounts from your electricity supplier for your energy use?
P1A Does your household receive any kind of financial assistance from an agency or any other group besides family members or the electricity company to help pay for your electricity use?
P6 Do you or your household use a pre-pay plan, in which you pay up front for the amount of electricity you intend to use?
P7  To the best of your knowledge are you on a “time of use” program…? 
P11 Are you on a payment plan where your monthly electricity bill is evened out, so that you pay the same amount every month regardless of the season?
The “Digital Divide”: Understanding low-income communication preferences and behaviors
Preferred News Sources

News Sources Used on a Regular Basis

- **Local TV**: 82% (82%) vs. 76% (70%) for General Population
- **National TV**: 73% (73%) vs. 70% (70%) for General Population
- **Printed Newspaper**: 49% (55%) vs. 49% (49%) for General Population
- **Local Commercial Radio**: 40% (49%) vs. 37% (37%) for General Population
- **National Commercial Radio**: 31% (37%) vs. 26% (24%) for General Population
- **Online Newspaper**: 26% (44%) vs. 24% (33%) for General Population
- **National Public Radio**: 24% (33%) vs. 22% (35%) for General Population
- **Online Publication**: 22% (35%) vs. 22% (35%) for General Population

Sources: SGCC Spotlight on Low Income Consumers (2012), Consumer Pulse Wave 2 (2011)
About Three Quarters Have Accessed the Internet in the Past 6 Months, But Age is a Key Driver

### Accessed the Internet In the Past 6 Months

<table>
<thead>
<tr>
<th></th>
<th>TOTAL</th>
<th>18-34 years</th>
<th>35-64 years</th>
<th>65+ years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have accessed the internet in the past 6 months</td>
<td>77%</td>
<td>91%</td>
<td>77%</td>
<td>53%</td>
</tr>
<tr>
<td>Have not accessed the internet in the past 6 months</td>
<td>23%</td>
<td>9%</td>
<td>23%</td>
<td>47%</td>
</tr>
<tr>
<td>Base</td>
<td>531</td>
<td>190</td>
<td>233</td>
<td>108</td>
</tr>
</tbody>
</table>

**DT1** Which of the following devices have you or others in your household used to access the Internet in the past six months?
Most 18-34 Year Olds Text, Most 65 or Older Do Not

Send or Receive Text Messages (SMS) (% by Age)

- Total: 58% Yes, 42% No
  - 18-34: 79% Yes, 21% No
  - 35-64: 58% Yes, 42% No
  - 65+: 79% Yes, 21% No

DT3 Do you use a mobile phone or other device to send or receive text messages?
Implications

1. The is a great need for effective educational outreach.

2. Participation rates in EE programs among low-income consumers can and should be improved.

3. The needs of older low-income consumers need more attention.
Motivations and Emotions of Engaged Consumers

OCTOBER 2014
Engagement Level Breakout

- High: 28%
- Average: 41%
- Low: 31%
Energy Consciousness Doesn’t Predict Engagement

<table>
<thead>
<tr>
<th>Energy Engagement</th>
<th>Energy Consciousness</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>28%</td>
</tr>
<tr>
<td>Average</td>
<td>41%</td>
</tr>
<tr>
<td>Low</td>
<td>31%</td>
</tr>
</tbody>
</table>

High: 74%, Neutral: 22%, Low: 4%

High: 68%, Neutral: 27%, Low: 5%

High: 51%, Neutral: 36%, Low: 13%
Purchase and Participation Drivers

Reason for Products Purchased
Top mentions among those who have purchased energy management products

- **Save energy**
  - High: 60%  
  - Average: 55%  
  - Low: 33%

- **Save money**
  - High: 55%  
  - Average: 43%  
  - Low: 30%

- **Convenience**
  - High: 10%  
  - Average: 12%  
  - Low: 17%

- **Help the environment**
  - High: 19%  
  - Average: 13%  
  - Low: 5%

A/B/C indicates a significant difference between the three engagement groups

Engagement Sig n=479
- High: A 135
- Average: B 209
- Low: C 135
Consumer Motivations

Attitude Toward How Energy Affects You Personally

- Willing to do whatever's necessary to reduce my energy bill:
  - High: 36%
  - Avg.: 31%
  - Low: 32%

- Sign me up for all things energy efficient, it’s a win-win - using less energy to provide the same service or maintain the same level of comfort:
  - High: 35%
  - Avg.: 25%
  - Low: 14%

- Being comfortable in my home is my top priority even if it means spending more:
  - High: 12%
  - Avg.: 21%
  - Low: 27%

- Willing to manage my energy only if it’s convenient for me:
  - High: 13%
  - Avg.: 19%
  - Low: 23%
Consumer Motivations

Attitude Toward Energy Conservation

- It is important to avoid being wasteful and to conserve energy in my home as much as possible:
  - High: 83%
  - Average: 69%
  - Low: 66%

- Saving energy is important to me, but I am not willing to make immediate changes or try new technologies:
  - High: 16%
  - Average: 26%
  - Low: 24%

- Saving energy is just not important enough to be worth my time or effort:
  - High: 1%
  - Average: 4%
  - Low: 5%

Engagement Sig:
- High: A
- Average: B
- Low: C

A/B/C indicates a significant difference between the three engagement groups.
Consumer Motivations

Attitude Toward Energy Management

Managing my energy use helps the environment
- High: 34%
- Average: 40%
- Low: 42%

Managing my energy use benefits future generations
- High: 41%
- Average: 29%
- Low: 26%

Managing my energy use helps reduce our dependence on foreign oil
- High: 18%
- Average: 21%
- Low: 14%

I am not at all interested in managing my energy use
- High: 7%
- Average: 6%
- Low: 11%

Engagement Sig
- High: A
- Average: B
- Low: C

A/B/C indicates a significant difference between the three engagement groups.
## Top Motivations by Engagement

<table>
<thead>
<tr>
<th>High Engagement</th>
<th>Average Engagement</th>
<th>Low Engagement</th>
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<tbody>
<tr>
<td><strong>It is important to avoid being wasteful and to conserve energy in my home as much as possible</strong></td>
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<td><strong>Managing my energy use helps the environment</strong></td>
<td><strong>Saving energy is important to me, but I am not willing to make immediate changes or try new technologies</strong></td>
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<tr>
<td><strong>Managing my energy use helps the environment</strong></td>
<td><strong>Saving energy is important to me, but I am not willing to make immediate changes or try new technologies</strong></td>
<td><strong>I am willing to do whatever's necessary to reduce my energy bill</strong></td>
</tr>
</tbody>
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Engagement, Regardless of Motivation, Creates Positive Emotions

How do your energy-saving actions make you feel?
Creating Engagement

Low engagement consumers respond to:

- Easy-to-use/convenient programs & products
- Present-oriented benefits
Deepening Engagement

High engagement consumers respond to:

- Current programs & products
- Future-oriented benefits
Moving Consumers Along the Spectrum

Product + message focus

Easy-to-use + present-oriented

Current + future-oriented

Resonates highly with

Low Engagement
Not Energy Conscious

Low Engagement
Energy Conscious

High Engagement
Not Energy Conscious

High Engagement
Energy Conscious
Implications

1. All consumers generally consider themselves “energy conscious” and report that they will “do whatever it takes” to reduce their energy bill.

2. The next level of responses yields more insight:
   a. High-engagement consumers tend to be more future-oriented in their motivations.
   b. Low-engagement consumers tend to be more present-oriented in their motivations.

3. Life stage factors play a part in at least some consumers’ ability to engage with current programs and products.
Smart Grid Consumer Collaborative

Patty Durand, Executive Director
Patty.durand@smartgridcc.org
@PattyDurandSGCC