CULTIVATING THE GREEN, HIGH-TECH CONSUMER IN THE RESIDENTIAL UTILITY LANDSCAPE

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Cultivating the Green, High-tech Consumer in the Residential Utility Landscape

Technology is driving transformation in the U.S. residential utility industry, influencing everything from the types of energy sources consumers are using to how consumers interact with their homes and their utility providers. Two prominent areas of growth are the adoption of solar energy and the use of connected home devices.

Solar energy is experiencing significant growth among both the tech-savvy and environmentally conscious consumers. Consumers are drawn to the clean, renewable energy and cost savings of solar energy, and motivated by attractive state and federal incentives. In 2006, only 30,000 U.S. homes had solar panels, but growth has been substantial over the last 10 years. In fact, the Union of Concerned Scientists expects more than 1 million U.S. homes will be equipped with solar panels by the end of this year. And solar energy’s appeal is broadening among consumers. EnergySage, a solar energy marketplace, estimates roughly 6 million consumers are actively shopping for solar panels.

Connected home devices leverage cutting-edge technologies that allow consumers to run their homes more efficiently. Examples range from smart thermostats that optimize energy usage to smart switches to control plug-in products via mobile app. While devices that capitalize on the Internet of Things are all the buzz in the technology space, connected home devices haven’t gone mainstream yet. According to research from Nielsen Harris Poll, two-thirds of U.S. consumers indicate they don’t know much about connected home technologies. But that lack of familiarity doesn’t mean connected home technology isn’t appealing to consumers. Roughly 78% of consumers expect homes to include connected home devices in the next five years. To make the jump from consideration to purchasing, however, consumers need to see the value-add of internet connectivity in their homes, feel more comfortable with price and have fewer privacy concerns.

While solar energy and connected home technology are growing in appeal, only a small pocket of the population has adopted them. Who are these high-value trailblazers of emerging residential utility technologies? And how do you gain deep insight into who these consumers are, where they live and how to reach them?
UNDERSTANDING THE RESIDENTIAL UTILITY CONSUMER LANDSCAPE

To better understand the residential utility consumer landscape, Nielsen has developed a consumer segmentation system based on key consumer attitudes and behaviors affecting interaction with the utility industry. These segmentation drivers include openness to new technologies like smart thermostats, solar panels and plug-in electric vehicles, as well as appeal of rebates and recycling programs. The segmentation resulted in a set of six consumer groups ranging from green, high-tech families to traditional suburban seniors.

UNDERSTAND RESIDENTIAL UTILITY CONSUMERS – WHO ARE THEY DEMOGRAPHICALLY?

<table>
<thead>
<tr>
<th></th>
<th>ENERGY EFFICIENT FAMILIES</th>
<th>RURAL &amp; RESOURCEFUL</th>
<th>SUBURBAN ENERGIZERS</th>
<th>SOLARIZED SENIORS</th>
<th>URBAN POWER SAVERS</th>
<th>CHOOSY MATURE COUPLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of U.S. Households</td>
<td>12%</td>
<td>10%</td>
<td>7%</td>
<td>7%</td>
<td>5%</td>
<td>12%</td>
</tr>
<tr>
<td>Predominant Age Range</td>
<td>25-54</td>
<td>25-54</td>
<td>25-54</td>
<td>55+</td>
<td>25-54</td>
<td>55+</td>
</tr>
<tr>
<td>Predominant HH Income Range</td>
<td>$50k+</td>
<td>$40k-$100k</td>
<td>$75k+</td>
<td>$75k+</td>
<td>&lt;$40k</td>
<td>$40k-$150k</td>
</tr>
<tr>
<td>% Married</td>
<td>67%</td>
<td>70%</td>
<td>77%</td>
<td>78%</td>
<td>41%</td>
<td>73%</td>
</tr>
<tr>
<td>% of HHs with Children &lt;18</td>
<td>53%</td>
<td>59%</td>
<td>51%</td>
<td>9%</td>
<td>41%</td>
<td>12%</td>
</tr>
<tr>
<td>Urbanicity</td>
<td>Urban</td>
<td>Town</td>
<td>Suburban</td>
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<td>Urban</td>
<td>Suburban</td>
</tr>
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Source: Nielsen PRIZM Premier 2016. Note that “HH” refers to “households”
# UNDERSTAND RESIDENTIAL UTILITY CONSUMERS – WHAT ARE THEIR ENERGY BEHAVIORS AND ATTITUDES?

<table>
<thead>
<tr>
<th>Utility Behaviors</th>
<th>ENERGY EFFICIENT FAMILIES</th>
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- **Green Energy**
- **Online Energy Audit**
- **Weatherization**
- **Whole House Audit**
- **Appliance Rebate**
- **Equipment Rebate**
- **Appliance Recycling Program**
- **Programmable Thermostat**
- **Solar Panels**
- **Own Plug-In Electric Vehicle**
- **Replace Light Bulbs with LED**
- **Electric Provider Incentives**
- **Gas Provider Incentives**

**Services**

**Behaviors**

**Attitudes**

Source: Nielsen Energy Track 2016. Note that "HH" refers to "households. Index values represent likelihood of a household to engage in a behavior or attitude, where index = 100 is average U.S. household.
Energy Efficient Families are the earliest adopters in the residential utility landscape and are already likely to use connected home and solar energy technologies. For the purpose of this analysis, we will focus our examination on these upscale families that are committed to green lifestyles. This segment is 82% more likely than average to own smart thermostats and 48% more likely than average to have solar panels. According to Nielsen Energy Track, Nielsen’s wide-ranging study focused on household energy consumption, Energy Efficient Families are 26% more likely than average to indicate they would spend 10% more on their monthly utility bill for solar energy. And they are highly likely to have installed light timers, replaced windows and purchased high efficiency appliances to make their homes as green as possible. Energy consciousness isn’t just limited to their homes. Energy Efficient Families are more than twice as likely as the average consumer to drive plug-in electric vehicles.

When interacting with their utility provider, these consumers are highly likely to use mobile and online services and connect via social media. Energy Efficient Families are particularly likely to use mobile and online services to report power outages, view power outage maps, schedule appointments and check the status of a service or repair.

But adoption isn’t homogeneous with the overall Energy Efficient Families segment. Nielsen Technology Scores provide added insight into both the technology adoption levels and technology usage of households. Digging deeper and further refining this group of consumers by technology adoption levels allows for isolation of only the earliest technology adopters. This sub-segment of trailblazing, tech-savvy consumers within Energy Efficient Families are most likely to adopted new connected home technologies and green energy services. Roughly 38% of Energy Efficient Families have the highest technology scores, and thus represent the cream of the crop for adoption of new technology.

Nielsen Technology Scores range from 1-100, with 100 indicating the highest likelihood. The scores were created using various Nielsen data sources such as: mobile device usage, purchase behaviors for consumer electronics, online banking, online shopping, usage of apps by type, social networking, internet usage by type and volume, retail shopping behaviors and device usage by type.

Above Average = Score is greater than 9.2% above average

Average = Score is between 9.1% above average to 7% below average

Below Average = Score is less than 7% below average

Source: Nielsen Technology Scores 2016
TAKING ACTION TO ENGAGE GREEN, HIGH-TECH CONSUMERS

With the understanding of who Energy Efficient Families are, taking action to reach and engage these high-value consumers requires further insight into the types of media they consume and where they are most likely to live. Nielsen’s residential utility consumer landscape has been built with Nielsen PRIZM Premier segmentation, which allows for easy and seamless implementation. PRIZM® Premier is the new version of Nielsen’s flagship segmentation system which classifies every U.S. household into one of 68 consumer segments based on household preferences for a broad range of products and services.

The tech-savvy consumers of Energy Efficient Families spend their time online, on their mobile devices and reading magazines. When Energy Efficient Families go online, they spend their time sending party invitations with Evite, shopping at IKEA and tracking their physical activity with Fitbit devices.

Locating high-value consumers in the communities where they live allows for targeted and efficient implementation of marketing efforts. Energy Efficient Families are likely to live in urban and suburban neighborhoods across the U.S. While Miami-Ft. Lauderdale has the highest concentration of Energy Efficient Families, the state of California has four of the country’s top 10 designated market areas (DMAs) for Energy Efficient Families. California also leads the nation in programs and incentives that allow consumers to go green easily.
DIGGING DEEPER WITH GREEN, HIGH-TECH CONSUMERS

Why do consumers adopt the technology and services they do? There is no substitute for hearing directly from consumers. Nielsen Video Capture makes this possible by providing utility providers a way to see how high-value consumers react to their products, services, websites or apps, in the moment to gain powerful insights for formulation and messaging improvements. Video Capture is the next generation of qualitative research. Consumers film their reactions to products and services on their smartphones while they are using them, and those videos are automatically uploaded and analyzed for fast, real-world consumer insights customized to your business.

DEEPER INSIGHTS INTO ENERGY EFFICIENT FAMILIES’ ENERGY NEEDS & PERCEPTIONS WITH NIelsen VIDEO CAPTURE

CONCEPT & PROGRAM TESTING
If energy saving program was made available to you, would you take advantage of it?

CUSTOMER SATISFACTION
Have you lost power in the last 3 months? If so, how long were you without power and were you satisfied with how your utility handled the situation?

AWARENESS
Are you aware of the energy saving programs that are made available to you by your utility that can save you money? If so, which ones do you know about? Have you taken advantage of them?

WISH LIST
If you could have any form of power to supply electricity to your home, what would it be and why?
CONCLUSION

The U.S. residential utility industry is undergoing a transformation driven by technology. New technologies like solar energy are diversifying the types of energy sources that consumers have access to. And new connected home devices are changing how consumers interact with their homes and their utility providers. Solar energy and connected home technology are growing in appeal, but they only a small pocket of the population has adopted them. Understanding, finding and engaging with high-value segments of consumers like Energy Efficient Families is key to your success capturing this opportunity.

What does it all mean?
Efficiency isn’t just important when it comes to energy usage. Efficiency is vital for marketers in the utility industry. Nielsen solutions add tools to your toolbox to better understand, find and engage with high-value consumers. These tools help you target the right audience with the right message and eliminate waste.

- Nielsen’s residential utility segmentation provides a multi-dimensional view of high-value households like Energy Efficient Families using a variety of meaningful behavioral and attitudinal characteristics from Nielsen’s Energy Track study. The connection to Nielsen PRIZM Premier segmentation allows for easy implementation to reach and find high-value consumers in the energy landscape
- Nielsen Technology Scores represent a two-dimensional view of consumers’ technology adoption and technology usage. These scores allow for refinement of consumer segments to isolate only the earliest adopters within high-value consumer segments like Energy Efficient Families and drive marketing efficiencies
- Utility providers can dig deeper and hear directly from high-value consumers like Energy Efficient Families about their energy wants, needs and perceptions using Nielsen Video Capture

ABOUT NIELSEN

Nielsen Holdings N.V. (NYSE: NLSN) is a global information and measurement company with leading market positions in marketing and consumer information, television and other media measurement, online intelligence and mobile measurement. Nielsen has a presence in approximately 100 countries, with headquarters in New York, USA and Diemen, the Netherlands.

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