



# 2014 State of the Consumer Report

NON-MEMBER SUMMARY



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## MISSION

The Smart Grid Consumer Collaborative is a 501(c)(3) nonprofit organization chartered to be the trusted source representing consumers, advocates, utilities, and technology providers in order to advance the adoption of a reliable, efficient, and secure Smart Grid and ensure long-lasting sustainable benefits to consumers.

## ACKNOWLEDGEMENTS

This fourth release of the Smart Grid Consumer Collaborative (SGCC) *State of the Consumer* expands upon previous reports by not only reporting on the latest in Smart Grid consumer understanding, but also sharing how utilities and others are utilizing this understanding in increasing consumer engagement. By sharing and disseminating these insights, we continue our drive to increase awareness of a consumer-safe, consumer-friendly Smart Grid and advance widespread understanding and interest from consumers in the benefits of an intelligent and sustainable electricity grid.

Our members were critical to the work that we chose to do and the high quality delivery of the research. SGCC membership demonstrates that collectively we are making great strides in partnering to better understand Smart Grid consumers—who they are, what they know, what they want, and how to engage them successfully.

The SGCC would like to thank the many companies and organizations that formulated insights from the research findings, and provided feedback on layout, content, and theme iterations. Only by continuing to collaborate on consumer issues will we be able to fully realize the promise of Smart Grid. If you are not a member, we invite you to join us as we continue to listen, collaborate, and educate going forward.

— SGCC Research Committee

[www.smartgridcc.org](http://www.smartgridcc.org)

## SGCC MEMBER LIST

Accenture	EPCE – Energy Providers Coalition for Education	NETL – SG Implementation Task Force
ACEEE	EPRI	New Brunswick Power Corporation
Aclara Technologies	Fayetteville Public Works Commission	Office of People's Counsel – DC
Alameda Municipal Power	First Energy Corporation	Office of the Ohio Consumers' Counsel
Alliance to Save Energy	Florida Power & Light	Oklahoma Gas & Electric
Ameren Corporation	Future of Privacy Forum	Opower
Arizona Public Service Company	Gainesville Regional Utilities	Oracle
Association for Demand Response and Smart Grid	Galvin Electricity Initiative	Pacific Gas and Electric Company
Avista Utilities	GE Energy	Pacific Northwest National Laboratory
Baltimore Gas and Electric Company	Georgia Institute of Technology	PayGo
Benton PUD	Georgia Watch	Peak Load Management Alliance (PLMA)
Bonneville Power Administration	GREEN DMV	Pepco Holdings, Inc.
Brookhaven National Laboratory	Greenlining Institute	Portland General Electric
California Center for Sustainable Energy	GridWise Alliance	PSC
California Public Utilities Commission	Huntsville Utilities	Public Utility Commission of Texas
CenterPoint Energy	Hydro One	Purdue University
Citizens' Utility Board of Oregon	IBM	Research Triangle Region Cleantech Cluster
Climate + Energy Project	Idaho Falls Power	Sacramento Municipal Utility District
CNT Energy	Illinois Citizens Utility Board	Sempra Utilities / San Diego Gas & Electric
Cobb EMC	Institute for Energy & Environment at Vermont Law	Siemens eMeter
Colorado Public Utilities Commission	Intelligent Energy Solutions LLC	Silver Spring Networks
Columbia Water and Light Department	Itron	Simple Energy
ComEd	Landis+Gyr	Smart Grid Oregon
Commonwealth of Massachusetts Department of Public Utilities	Lawrence Berkeley National Laboratory	Southeast Energy Efficiency Alliance
Comverge	Market Strategies International	Southern California Edison
Consumers Energy	Memphis Light, Gas and Water	Southern Company
CPS Energy	Michigan Public Service Commission	Southface Energy Institute
DNV KEMA	Middle Tennessee EMC	Southwest Research Institute
Dominion Resources	Minnesota Valley Electric Cooperative	Stoel Rives LLP
DTE Energy	Montana State University	TechAmerica
Duke Energy	National Institute of Standards and Technology	Tendril Inc.
Duquesne Light Company	National Renewable Energy Laboratory	Tennessee Valley Authority
Earth Networks	Natural Resources Defense Council (NRDC)	Texas Office of Public Utility Counsel
Edelman	NC Department of Commerce – Energy Office	Tri-County Electric Cooperative
Electric Power Board of Chattanooga (EPB)	NC Sustainable Energy Association	TVPPA
Environmental Defense Fund (EDF)		Utility Consumers' Action Network
		Vermont Energy Investment Corporation

# Introduction

The first step in meaningful collaboration is establishing a shared context among and between stakeholders. This has become especially important as both the pace of change in and growth of expectations of the electric utility sector have accelerated over the past years. The Smart Grid Consumer Collaborative (SGCC) endeavors to create this shared context through its research and to facilitate meaningful collaboration between stakeholders.

The SGCC's consumer research program is rigorously designed to truly understand consumers and how they relate to the Smart Grid. We have defined the market segments that exist related to Smart Grid technology, and have delved deeply into their interests and desires. At the same time, we have begun to examine how utilities have produced benefits meaningful to consumers through their grid modernization efforts, and how they have successfully engaged consumers in the process.

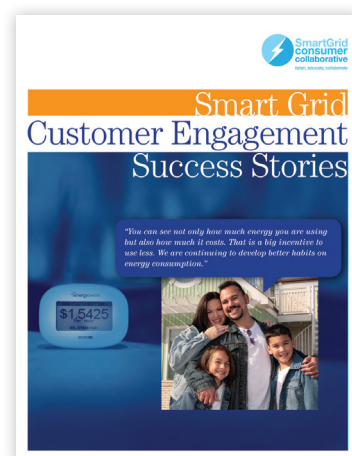
This document is a summary of the full 2014 State of the Consumer report. Additional detail and analysis is available to SGCC members, who paid for and contributed to this report's development. We welcome you to join SGCC as a member to take full advantage of our consumer research, consumer education, and industry collaboration opportunities.

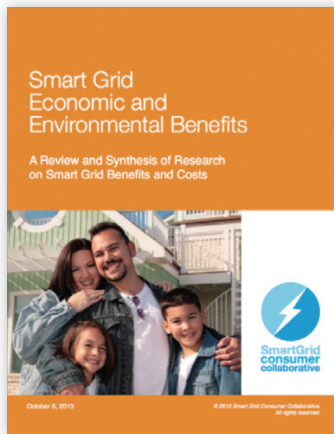
## Methods and Study Overviews

The 2014 State of the Consumer report draws its key themes from SGCC research conducted in 2013. This research includes: *Customer Engagement Success Stories*, *Smart Grid Economic and Environmental Benefits*, and *Consumer Pulse and Market Segmentation Wave 4*, along with an examination of utility segmentation efforts to be released in early 2014. We also reviewed non-SGCC research related to consumer engagement, and include selected findings from the US Department of Energy's *Voices of Experience* as part of this report.

### Customer Engagement Success Stories

*Customer Engagement Success Stories* examined the communication and outreach strategies and tactics used by four leading U.S. utilities to successfully increase consumer engagement with a variety of Smart Grid-enabled programs. This examination was the basis for a seven-point engagement framework that is useful for all industry stakeholders in guiding their consumer engagement efforts. Additional case studies were released throughout 2013, yielding greater insight into how this engagement framework serves to help effectively educate and motivate consumers to engage with various Smart Grid-enabled programs and technologies.





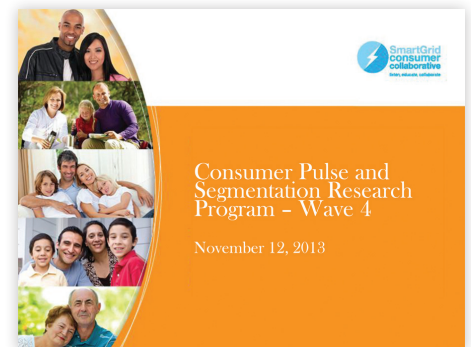
## Smart Grid Economic and Environmental Benefits

Because real-world experience with the Smart Grid is growing, SGCC completed a review of available research quantifying the actual—rather than forecast—benefits and costs to help stakeholders analyze and maximize the value of various Smart Grid capabilities. This report summarizes available research on the benefits of grid modernization in terms that stakeholders and consumers can understand. It synthesizes the findings in a “per customer” context whenever possible and documents the assumptions and calculations used in this synthesis so that stakeholders can easily translate this research into information relevant for their particular Smart Grid application.

## Consumer Pulse and Market Segmentation Research Program – Wave 4

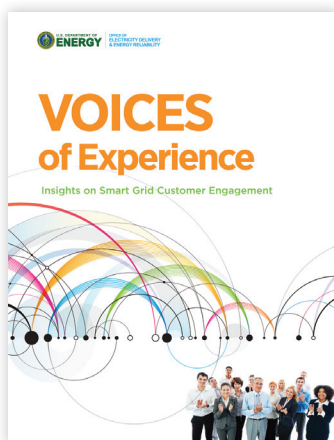
Starting in August 2011, SGCC began regularly taking the pulse of the consumer market to gauge consumers’ journey in Smart Grid understanding, acceptance, and engagement. This seminal study was designed to measure and track changes in consumer awareness, favorability, and understanding of Smart Grid messages and consumer benefits.

The findings from the SGCC *Consumer Pulse and Market Segmentation* study are derived from over 4,000 in-depth, nationally-representative consumer telephone surveys. Wave 1 was completed in August 2011 among 1,200 U.S. consumers. Wave 2 was completed November 2011 among a sample of 1,003 U.S. consumers. Wave 3 was completed in August 2012 among 1,089 U.S. consumers. Wave 4 was completed in September 2013 among 1,001 U.S. consumers.



## Segmentation Successes

From SGCC’s *Consumer Pulse and Market Segmentation* study, we know that consumers are not monolithic when it comes to Smart Grid. Instead, there are five distinct segments that hold different interests, priorities, and willingness to engage with Smart Grid-enabled programs and technologies. We looked at how a small sample of utilities have applied segmentation to their Smart Grid programs, what the results were, and what capabilities the utilities had to develop to do this work. The resulting white paper will be released in February 2014.



## Voices of Experience

As a member of the US Department of Energy’s (DOE) *Voices of Experience* steering committee, SGCC and a number of its members helped develop this report. In Smart Grid Peer-to-Peer Workshops conducted by DOE, utilities of different sizes and operating structures shared the approaches and methods that worked best for them and their communities, and the valuable lessons they learned along the way. This report captures these approaches in order to share the large base of knowledge that exists about Smart Grid implementation in utilities throughout the United States.



# What We Have Learned: The State of the Consumer

Since its founding, the Smart Grid Consumer Collaborative has made it a priority to increase industry knowledge about how U.S. consumers are thinking about and engaging with grid modernization efforts. In 2013, we have expanded our work to help industry stakeholders understand how to apply that knowledge to grow consumer awareness, favorability, and engagement with these new technologies.

Based on SGCC's 2013 research, below are six key themes about the state of the Smart Grid consumer:

## **THEME 1: Consumer Awareness and Favorability Are Stable Over Time**

Despite Smart Meters being installed in nearly 40% of U.S. homes and the emergence of the term “Smart Grid” in mainstream use, consumer awareness and favorability is largely the same today as it was when SGCC began the *Consumer Pulse and Market Segmentation* program in 2011. This shows that we still have a long way to go in helping consumers understand Smart Grid and why it matters to their future. Fortunately, this also shows that pockets of noisy opposition to grid modernization do not appear to have a negative impact on consumer sentiment.

## **THEME 2: Segmentation Drives Performance**

Because consumers care about different things, utilities that approach consumers *with benefits that they care about* realize better program performance than those that use a blanket message. Additionally, our research indicates that there may be opportunities for utilities to drive revenues by offering added value to consumers. Segmentation can be a win-win, with consumers enjoying more personalized products and messaging about things they care about, and utilities finding new areas for growth in a changing energy landscape.

## **THEME 3: Utilities Can Use Field-Tested Best Practices Frameworks to Engage Customers**

While segmentation is critical to engaging consumers, we have found commonalities that underlie the most effective utility customer engagement efforts. The resulting frameworks provide a core set of activities that any utility can use to successfully engage their customers. Important among these activities are:

- Engaging customers before technology deployment;
- Facilitating employee and community engagement;
- Listening and engaging with customer concerns and questions.



**Consumers have told us that clean energy and grid reliability are extremely important benefits of the Smart Grid—and that they would be willing to pay more to receive them.**



#### ***THEME 4: Consumers Want Smart Grid “Made Real” For Them***

Although they may not be aware of the underlying Smart Grid technology, consumer interest in Smart Grid-enabled technologies and programs is very strong, though program participation and technology adoption rates remain low. We believe that this gap between interest and adoption can be narrowed through consumer-focused product/service development and by communicating with consumers in the language and via the channels that they prefer.

#### ***THEME 5: Consumers Value Clean Energy***

Since the inception of SGCC’s *Consumer Pulse* research program, consumers have told us that clean energy and grid reliability are extremely important benefits of the Smart Grid—and that they would be willing to pay more to receive them. This year, we tested several price points for these benefits, and the results are surprising. Not only do consumers demonstrate a continued willingness to pay, but their responses also show that support is not inversely correlated with price. This indicates an opportunity for utilities and others to reexamine how they approach providing clean energy.

#### ***THEME 6: The Smart Grid Offers Real Benefits that Consumers Care About***

We know that consumers care about a number of different benefits that the Smart Grid can offer—from the immediate and personal to the long-term and societal. Fortunately, many of these benefits are no longer hypothetical, but proved by real-world experience. Looking at actual Smart Grid deployments, we found that the net present value of Smart Grid investment ranges from \$247 to \$713 per customer and that there are significant environmental and reliability improvements from these investments.

We invite your feedback and look forward to continuing dialog on these insights. SGCC is committed to continuing to provide research and thought leadership that support increased understanding of the implications of new grid technologies for American consumers.

# Conclusion

SGCC's consumer research program is rigorously designed to truly understand consumers and how they relate to the Smart Grid. From these efforts, we have distilled six themes related to how consumers think about and experience grid modernization. The bottom line from all of these themes is that engaging consumers is critical to Smart Grid success.

We have also begun to examine how utilities have produced meaningful benefits to consumers through their grid modernization efforts, and how they have successfully engaged consumers in the process. We know that consumers have a near-universal desire and expectation for utilities to offer energy savings advice, and we know that the energy landscape is changing tremendously. 2014 promises to be a year filled with more home energy management products and services, increased momentum for rooftop solar PV installations, and greater consumer demand for grid resiliency and improved outage communications with each storm event.



By rigorous analyses of reliable data from actual Smart Grid implementations, SGCC research has demonstrated that there's a strong—in fact overwhelmingly—positive value proposition for consumers supporting investments in Smart Grid. We've also shown how a positive consumer value proposition aligns with the responsibilities and goals of differing stakeholders, from regulators and policymakers to consumer advocates and environmental advocates.

The massive and sustained investments needed to modernize the thousands of individual grids in the U.S. will require a keen understanding by myriad stakeholders of the costs and benefits involved. Utilities with a sound business plan for implementing Smart Grid technologies need an informed, supportive base of customers, as well as support and innovative thinking among other stakeholders, to adapt to changing circumstances and evolving utility business models.



We have only scratched the surface of consumer awareness, education, and empowerment. It is now time for the electric power industry to more fully understand who their customers are and what they want, and it is time for regulators and policy-makers to create new ways for utilities to take risks and help meet consumer demand for energy knowledge and energy savings while maintaining their business integrity.

We hope 2014 is a year that will see more progress in the transformation of the electric power industry as it is today into the new world we know is coming: where consumer energy data is widely available to consumers so they are more empowered; where consumers enjoy an array of apps that provide more fun and engagement; and where consumers can sign up for new pricing plans that help them save money while reducing pressure on the grid.

SGCC is committed to doing its part in driving this progress through its consumer research and education programs, and by facilitating collaboration among industry stakeholders. We ask you to join us in this exciting effort.

# *SGCC's 2014 Consumer Research Program*

With the guidance and insight of our Research Committee, SGCC has scoped out a research agenda for 2014 intended to provide deep insights into consumer behavior and motivations. With the information in these reports, stakeholders will be able to better understand how to meaningfully engage consumers in Smart Grid-enabled programs, services, and technologies.

SGCC's 2014 research will include:

## ***Spotlight on Low Income Consumers, Part II***

Exploring additional themes uncovered during SGCC's Spotlight on Low Income Consumers published in 2012, this national telephone survey of low-income households will focus on the experience low-income consumers have had with Smart Grid, the effects of the digital divide on low-income consumer participation in Smart Grid programs, how renting impacts consumers' ability to participate in the Smart Grid, and how low-income consumers pay for energy.

## ***Motivations and Emotions of Engaged Consumers***

Beginning with a framework for defining "engaged" consumers, this study will examine the motivations and emotions of a small set of U.S. consumers to help understand what drives engagement. This study will explore how engagement is driven by attitude, life stage, and other factors, and provide insight into how industry stakeholders can effectively create enduring consumer engagement.

## ***Consumer Pulse and Market Segmentation Study Wave V***

The fifth wave of SGCC's flagship 'Pulse' series of nationally representative consumer telephone surveys will update SGCC's groundbreaking consumer Smart Grid segmentation framework, focusing on presenting this information in a way that is actionable by readers. This survey will also track the progress that industry stakeholders are making in building awareness and favorability of the Smart Grid.

Please contact us at [membership@smartgridcc.org](mailto:membership@smartgridcc.org) if you are interested in learning more about SGCC's 2014 research and the benefits available to all SGCC members.



## Working for a consumer-friendly, consumer-safe smart grid

SGCC is a consumer focused non-profit organization aiming to promote the understanding and benefits of modernized electrical systems among all stakeholders in the United States. Membership is open to all consumer and environmental advocates, technology vendors, research scientists, and electric utilities for sharing in research, best practices, and collaborative efforts of the group. Join @ [www.smartgridcc.org](http://www.smartgridcc.org).

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