U.S. DEPARTMENT OF ENERGY | OFFICE OF ELECTRICITY DELIVERY & ENERGY RELIABILITY

VOICES of Experience

Insights on Smart Grid Customer Engagement

June 2013

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The information contained in this document was compiled in 2012. References and links to additional resources, documents and programs may no longer be active or available. The full URL for all available hyperlinked resources can be found in the digital version of this document on www.smartgrid.gov/voices_of_experience.

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Background

The American Recovery and Reinvestment Act and Recovery Act of 2009 spurred investments in smart grid technology and programs at utilities across the country. The Smart Grid Investment Grant program and Smart Grid Demonstration projects that it funded provided an unprecedented opportunity to learn from smart grid implementation.

Starting in 2011, the U.S. Department of Energy, Office of Electricity Delivery and Energy Reliability (DOE OE), in partnership with electric utilities that received Recovery Act funding, convened a series of regional Smart Grid Peer-to-Peer Workshops. The workshops were designed to bring together utilities to engage in dialogues around the most compelling smart grid topics in the region with a focus on customer engagement. The meetings offered a platform for smart grid implementers, at all stages of project deployment, to share their experiences and learn from other utilities.

At the Smart Grid Peer-to-Peer Workshops, utilities of different sizes and operating structures shared the approaches and methods that work best for them and their communities, and the valuable lessons they learned along the way. Clearly, one size does not fit all and there is no specific prescription for customer engagement. There is, however, a large base of knowledge about smart grid implementation in utilities throughout the United States.

In addition, discussions at each workshop underscored the changing nature of the utility-customer relationship and the advantage for utilities to communicate the benefits of smart of grid technology. Building on the success of the regional Peer-to-Peer Workshops and in response to industry need, DOE OE convened a Smart Grid Customer Engagement Working Group in November 2012 to capture the knowledge that utilities have developed during the initial phase of smart grid technology deployment.

5 Things Every Utility Should Know

1. *Smart Grid impacts the entire organization and must be championed by the top executives.*
2. *Smart Grid technology changes the customer-utility relationship; it is a cultural shift in the utility industry.*
3. *Smart Grid is a community effort not just a utility effort.*
4. *Utility customers do not all have the same needs and preferences. Customer choice is important.*
5. *Media coverage—particularly social media—can change community perceptions quickly, especially if customers have not been informed and educated upfront.*

Why the Smart Grid Customer Engagement Guide?

The success of the Smart Grid will depend in part on consumers taking a more proactive role in managing their energy use. This document is the result of a nine-month effort to compile information on the successful approaches used by utilities to engage customers regarding smart grid technology deployments. *Voices of Experience|Insights on Smart Grid Customer Engagement* (the Guide) provides practical advice in the form of "**Industry Insights**" from utilities that have implemented smart grid projects to educate and engage their customers. It is not a road map, how-to guide, or even a handbook. It is simply an effort to capture the industry's knowledge—and "voices of experience."

Customer engagement within the electric power industry is an evolving, ongoing process that is just beginning to emerge. While this cap Guide may lean towards advanced metering infrastructure (AMI)/smart meter customer engagement (that is the technology on which participating utilities were most often focused), the principles and insights apply to a much broader perspective including engaging customers for dynamic pricing programs, demand response programs, distribution automation (e.g.; outage communication), and other technology such as home area network (HAN) devices.

Approach

In the fall of 2012, DOE issued an invitation to the electric power industry to participate in the Smart Grid Customer Engagement Working Group (Working Group). The Working Group held its first meeting in Washington, DC in November 2012 and included utilities, vendors, regulators, consumer advocates, and other industry stakeholders. Members of the working group divided into subcommittees that formed around general smart grid customer engagement topics such as Resource Planning, Consumer Advocacy, IT Planning, Stakeholder Engagement, Marketing, Regulatory Strategies, and Metrics. A leadership team consisting of utility professionals with experience in customer engagement directed the subcommittees and provided guidance to DOE on developing the process and content for the Guide.

Following the kickoff meeting, each subcommittee leader held a series of conference calls with their respective subcommittee to discuss best practices and gather recommendations for the Guide. The recommendations included advice, tactics, examples, methodologies, and a variety of other information that has been incorporated into the Guide. In addition, the leadership team met several times through conference calls and in-person meetings to discuss the development of the Guide.

A framework for the Smart Grid Customer Engagement Guide was distributed to the Working Group for comments in March 2013. The second in-person Working Group meeting was held in May 2013 to continue the development of the Guide in an open, transparent manner. Feedback from the meeting was incorporated into the working draft of the Guide in May 2013 and a series of conference calls commenced. Members of the Working Group were invited to attend in person or provide comments to the document on the calls or submit feedback in writing.

Comments, edits, and feedback on the draft were reviewed and incorporated into the final document, which was released in July 2013 and made available to the industry on SmartGrid.gov and other websites.

What is customer engagement?

Communications and interactions between the utility and the people it serves with the goal of building trust, respect, and optimal energy usage for each customer.

Voice of Experience

"We're going to reinvent our business, we're going to adopt new technologies. When you look at our company four decades from now it will look fundamentally different."

— Jim Rogers, former president and CEO, Duke Energy.

Using this Guide

The goal for this Guide is to provide practical advice to assist you in developing your smart grid customer engagement program. Utilities that have gone through the experience of deploying smart grid technology have learned lessons and gained insights along the way – sometimes the hard way – that can be applied to new projects as well as existing projects that may be ready to expand or are dealing with a specific challenge.

- All utilities are different, with unique customers and communities. This document is not a road map that you must follow, but a compilation of common tactics and insights that other utilities have learned through their own smart grid technology deployments.
- The goal of this project was to capture as much information in the utilities' own words. These are presented as "**Examples**" and quotes throughout this document.
- Sections labeled "**How do you do that**?" will link you to supporting research, various methods and approaches, and additional information provided by experts in the field of customer engagement. These links are not intended to be a comprehensive list of resources, but additional information that you might find helpful.

Regulators and Boards

The movement toward a modern, smarter grid that incorporates information technology capable of monitoring the supply and demand for electricity on a real-time basis is changing the corporate culture at utilities across the country. Utilities are shifting from the mindset of delivering a commodity to a specified customer base, to a customer-centric business that provides products and services that give their customers information, choices, and control over their electric usage. The full realization of many of the benefits of the Smart Grid depends on the choices that customers make, which makes customer engagement programs a critical component of a utility's smart grid investment.

Utilities that participated in the development of this Guide and the Peer-to-Peer workshops leading up to the Smart Grid Customer Engagement Working Group identified these considerations for regulators and boards:

- **Customer expectations are changing**. Just as the culture within the utility is changing, so are the expectations of the customer. New technology – specifically the Internet—has allowed people access to far more information than ever before, and with that the expectation that they will be given information and choices about how they use electricity and interact with their local utility.
- **One size does not fit all**. While some of the ideas presented in this Guide are universal or can be adapted to specific circumstances, others are not. Communities, operating structures, and environments vary and what works for one utility may not work for another. For example, an approach to engaging customers that works or is needed for a large urban utility, may not work – and could even be problematic—for a rural cooperative. Likewise, variations in the technology may require different approaches to engaging the community and customers.
- **Flexibility is important**. The insights in this Guide are intended to provide utilities with options or ideas they might want to consider when developing their own customer outreach program. Whether the insight is used or how it is implemented depends on many factors including the existing relationship the utility has with its customers and community.
- **An open transparent process is the goal**. One of the overarching themes from participating utilities is to consider their community stakeholders—including regulators—as participants in their smart grid project. Smart Grid impacts the entire community and creating an open, transparent process has been found to be a key element for long-term success.

Voice of Experience

Commissioner View

"Across the nation, states and utilities have made tremendous progress with the smart grid deployment plans. In Pennsylvania, we are working toward full deployment of smart meters by 2023. However, these meters are only as smart as the consumers using them. Educating consumers about the energy-saving advantages of smart meters is an important step in the process. The PUC recognizes that without a sharp consumer the benefits of smart meters cannot be fully realized."

— Robert F. Powelson, Chairman, Pennsylvania Public Utility Commission

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Characteristics of a Successful Customer Engagement Program

1. *Established strong guiding principles that provided direction throughout the program.*
2. *Viewed customers as partners.*
3. *Engaged employees from the start and continued throughout the program.*
4. *Started customer engagement efforts prior to the technology deployment.*
5. *Managed change within the organization proactively.*
6. *Met customers in their preferred forum – traditional mail, in person, or online. The channel is just as important as the message.*
7. *Recognized the importance of listening and engaging with customers who had concerns about the technology.*

Getting Started Our Best Advice

If there is one thing to know before you get started, it is that smart grid technology is changing the utility's relationship with its customers. The shift from viewing customers as rate payers to more of a partner with the utility—along with the data and information smart grid technology generates—affects every aspect of the utility's operations. Managing this organizational change is often more important and challenging than the technology changes. This section is intended to help you think through some things that might help your utility make the "culture" shift to a more customer-centric organization before you even start planning your customer engagement efforts.

Start with Executive Sponsorship

Smart grid technology is a major investment that does not happen without direction from the highest levels of management. But, approving the investment and championing the smart grid project or program are very different. Smart grid implementation requires strong leadership from the top of your organization by someone who can clearly articulate the vision and importance of the program to both internal and external stakeholders. Only then can the team function in a cohesive, efficient manner and achieve the organization's smart grid mission and objectives.

Industry Insights

- Clearly identify the executive sponsor in your organization.
- Executive sponsorship at the CEO level is best.
- Recruit a visible project champion from all major business units to facilitate cross-functional communications and collaboration.
- Have a "resource bench" of executives who will be part of external engagement activities. Make sure these executives are kept apprised of the progress and issues so they can talk about the program on short notice.

Examples

- **Florida Power & Light Company** (FPL) assigned an executive to the position of "Vice President of Customer Service Smart Grid Solutions" to manage the day-to-day operations of its Energy Smart Florida smart grid initiative, reporting to the Vice President of Customer Service, who served as executive sponsor.
- Initially, the executive sponsor for **OG&E's** smart grid program was their vice president of strategy. While this was eventually transitioned to their chief operating officer, throughout the program, the entire executive team fully supported smart grid as the top strategic initiative, and this level of executive support had a significant impact on the overall success of OG&E's smart grid program.
- During the deployment, **San Diego Gas & Electric's** (SDG&E) executive leadership was instrumental in creating the culture for SDG&E's smart meter program. It was stressed that the smart meter program was not a meter exchange program, but an opportunity to reconnect with all customers and to educate them about SDG&E's programs and services, as well as provide excellent customer service during the deployment.

Voice of Experience

Pepco Holdings, Inc.

"AMI can change the ways utilities do things as we transition into a future of enhanced customer service, enhanced reliability, and improved energy efficiency. PHI has a vision for a more energy efficient future enabled by smart technology, and we are now seeing this vision come to fruition with more than one million smart meters deployed throughout our service territory."

— Joseph M. Rigby, Chairman, President and CEO, Pepco Holdings, Inc.

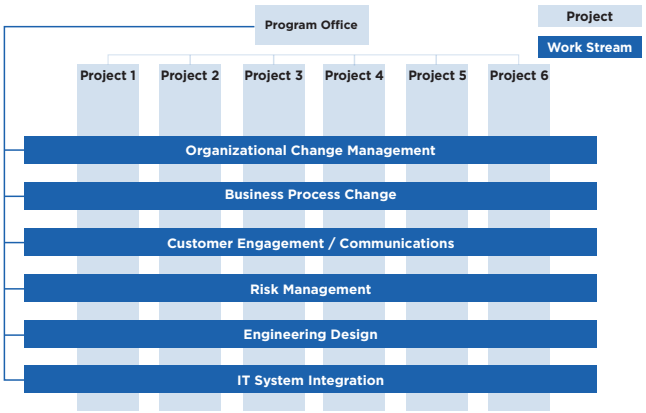
Create a Strong Project Management Structure

Smart grid projects are complicated. The technology and communications tend to cross multiple, traditionally siloed departments within the utility that now need to work together. In addition to coordinating teams of people that likely include vendors too, communications with your customers and the broader stakeholder community must be synchronized with the technology deployment. And all this is happening in an environment with changing expectations, customer needs, and challenges. Establishing a cross-functional project management structure with visible executive sponsorship that includes all business units is key to project success. The project management structure is especially important when the utility has multiple, concurring smart grid projects that may have common work streams and customer touch points. Customer experience – an interaction with the utility – is enhanced when the customer engagement plan is tightly integrated with the technical project deployment plan and business process changes.

Industry Insights

- Form a team with representation from all departments involved in the smart grid project deployment including operations, IT, marketing and supporting business units such as legal, finance, communications, regulatory, public affairs, etc.
- Include people with expertise in organizational change, business process transformation, and training.
- Include your information technology team as a strategic partner. IT needs to be actively engaged in planning not just as a technology provider, but as a trusted advisor to align projects with the business and to ensure the security, reliability, accuracy, and usability of solutions.
- Include marketing and communication leadership from the beginning.
- Assign ownership of the overall project (not just the customer engagement aspects) to a single business project manager from a customer-centric operational unit to maintain a customer focus.
- Develop a strong project governance structure to guide the project management team.
- If practical, co-locate the project team to facilitate communications among team members.
- Consider dedicating full-time team members for core project functions if appropriate at your utility.
- Weekly update meetings for the entire project team are critical for evaluating the project's progress, assessing risks, responding to issues and making necessary adjustments.

Example of Multiple Project Functional Organization Structure



- Status reports can be effective for communicating upcoming engagement events to the project leadership and entire team.
- Coordinate with other programs that touch customers such as energy efficiency.
- When implementing multiple projects, consider establishing a program management office (PMO) to manage work streams that are common across the multiple projects to help insure tighter integration and coordination efforts.

Examples

- **Glendale Power and Water's** (GWP) experience in assuring that its Smart Grid initiative would be implemented within budget and on schedule required that the project team be aligned and that decisions were made as issues arose. To accomplish this, GWP's executive sponsor (the general manager) assembled a team comprised of all assistant general managers and "mission critical" departmental managers who were charged with ensuring that the project progressed as planned. In order to maintain project continuity, the team met weekly (Tuesdays at 3 pm) to assess progress, analyze issues, and make decisions before leaving the meeting. This required that all team members expressed their opinions on how specific issues should be handled with a "decision reached" prior to the meeting's end. If the team could not reach consensus, the executive sponsor was charged with making the final decision, which he always did. While it was expected that interdepartmental differences could create different approaches to various issues, it was also recognized that there

was little room for roadblocks and schedule delays. The team approach and the weekly decision process made it possible for the project to advance and allowed all diverse opinions and approaches to be heard.

- **At Great River Energy**, a PMO was established to funnel technology requests from the business to IT and network resources. The PMO assigns analysts to each business unit to understand business processes and determine requirements for new projects. The PMO then evaluates those requests against existing projects, budgets, and personnel. The PMO establishes and maintains project and request priority, budget, and staffing. The PMO coordinates projects with an integrated help desk, as well as a centralized change management function. No changes, additions, or modifications to infrastructure, applications, operating processes, or systems are made without presentation to the change control board. As enterprise IT and technology operations become more complex, every change affects some aspect of IT and infrastructure. Knowing what is being planned and considered from the start engages all the necessary parties and prevents errors, surprises, and delays.
- **Florida Power & Light Company** (FPL) produced a Weekly Change Management Update Report that included a running list of upcoming consumer engagement activities.

Voice of Experience

OG&E

"A broad, smart grid focused organizational structure, which included operations, information technology, and marketing resources combined with a formal PMO was a powerful way to enable OG&E to lead and manage the smart grid projects from planning through the execution and close-out phase, applying many enabling tools and project management processes along the way."

— Harry Emerson, OG&E, Director – Smart Grid Business Management

How do you do this?

- Project Management Institute

Articulate Your Vision, Objectives, and Guiding Principles

The vision, objectives, and guiding principles for your customer engagement program will be the "umbrella" that will guide internal and external communications. The vision defines why your utility is investing in smart grid technology; the objectives specify what you want to achieve; and the guiding principles empower employees by providing direction and constraints for decision making. Guiding principles and objectives help ensure that the messages you send to customers are consistent and aligned with broader corporate objectives, including policy goals.

Industry Insights

- Align customer engagement goals with the overall smart grid project goals.
- Identify the customer benefits in customer terms – not utility terms.
- View principles as guardrails that keep the project moving on the right path and allow employees to be nimble and address customer concerns as they emerge while achieving the overall objectives.
- All impacted organizations should take part in the development of these principles to foster organizational buy-in.
- Guiding principles and objectives will make expansion and consistency of messaging easier.
- Consider engaging your stakeholders in the process of developing a vision for your project.

Examples

- **San Diego Gas & Electric's** Guiding Principles were:
  - **Be proactive:** Anticipate stakeholder needs and develop solutions to meet those needs.
  - **Be collaborative:** Work with stakeholders to design and improve the customer experience, products and services.
  - **Work towards mutually beneficial outcomes:** Continually seek and incorporate feedback from all stakeholders.
  - **Be responsive:** Respond promptly and transparently to all inquiries.
  - **Be nimble:** Expect and accommodate continual process and communication improvements.
- **San Diego Gas & Electric's** Customer Engagement Vision: By offering the right information to the **right customers** through the **right channels** at the **right times**, we enable customers to adopt smart energy solutions and make informed energy management decisions.
- **Florida Power & Light Company** (FPL) Guiding Principles:
  - Communicate when it counts.
  - Set clear expectations about benefits and when they will be realized.
  - Provide information on topics that customers have identified as most relevant (reliability, control/potential savings, convenience).
  - Build overall awareness through a steady stream of news and information in mass customer communication channels (FPL.com, bill inserts, e-newsletters).
  - Educate key stakeholders through one-on-one or small group briefings.
  - Tailor education to meet unique customer needs.
  - Equip employees as ambassadors.
- **OG&E's** Guiding Principles:
  - Demand response (DR) results will be obtained through customer empowerment.
  - OG&E will not directly control customer equipment or appliances.
  - Customers will be provided time differentiated pricing and be allowed to choose their balance between cost and comfort.
  - Pricing (rates) will reflect true costs minimizing any subsidies within or across customer rate classes.
  - All customer participation will be voluntary.
  - Enabling technology will be provided to customers at no cost.
  - Customers will be encouraged to remain on the program by creating a no-lose proposition for the first year.

Voice of Experience

Central Maine Power

"In my opinion, two of the most important tools in effectively implementing an AMI program are guiding principles and clear goals. Guiding principles serve as the road map and the guardrails for the vision of the program. Clear goals define the mile markers and end destination. We used both every day to ensure that the team, and the whole organization, were all working together in the same direction with the hope (and satisfaction!) that we would arrive at the right place at the right time in achieving what we had envisioned."

— Laney Brown, Director of Smart Grid Planning and Programs, Iberdrola USA

Assess Your Situation

There are many variables that impact your customers' perspectives which can in turn impact project implementation. You need to know your customers and the environment in which you are operating including how your customers view their utility company. Understanding your current situation requires assessing both internal and external perceptions, attitudes, and events.

Industry Insights

- Conduct a baseline customer perception survey to objectively assess your utility's relationship with its customers.
- Perform a gap analysis – this will help to guide you from where you are to where you want to be.
- Evaluate other projects your utility is undertaking and how those could impact customer perspectives on your smart grid deployment.
- Determine how this smart grid project fits into the broader company business and overall communications strategy. Other utility projects (favorable or unfavorable) can impact customer perceptions.
- Be aware of customer reaction to smart grid deployments in other areas of the country and consider how they may impact your project. Through the Internet and social media channels, what happens in Ohio or Maine can impact Kansas and Washington. In addition, certain organizations consistently mobilize in areas across the United States deploying smart meters.
- Monitor media outlets and social media for issues that may cause concerns with deployments.
- Be careful of falling into the mindset that AMI deployment is an equipment change and thinking that your customers won't care – it varies from community to community.

Prepare for These

Most utilities at the forefront of smart grid implementation had issues that required the utility to react and adjust their plan mid-stream. Some of these include:

- Opt out
- Radio Frequencies (RF)
- Buy American
- Privacy
- Control/big brother watching
- UN Agenda 21 questions
- Potential for high and/or inaccurate bills
- Meter readers losing jobs

Be aware of these external factors that may impact a smart grid deployment:

- Local (or national) elections
- Natural disasters
- PUC position on Smart Grid
- Local activists
- Unions
- Utility projects underway, such as new transmission or generation projects.
- Rate cases and recent rate increases

Gap Analysis

Is the comparative study of a situation dealing with the present case and the desired future situation. The differences between the existing situation and the preferred future situation are referred to as "gaps."

How do you do this?

This framework was developed for DTech Meta Analysis on Smart Grid Communications (2012).

Fly Under the Radar	Active Engagement	Slow Build
Back-end deployment first in sequence	AMI rollout in process or pilots are imminent	Practice incremental modernization efforts
High percentage of "indifferent" customers	Motivational mix, active stakeholders, media	Limited stakeholder urgency or interest
Low energy prices and costs to deploy	Costs may precede full benefits and offerings	Pay as you go approach
Biz case justified on operational grounds	Inspiring vision to justify investment, slower ROI	Customers or voters may be owners
Minimal residential participation needed in initial stages	Community champions and influencers available and motivated to partner	Pattern of community involvement in plans and decisions
Build foundation for community exchange	Reflect local social norms, phases, do not overpromise	Emphasis on energy literacy for youth

Voice of Experience

Monitoring the Media

"You have to tap several sources to tune in to leading indicators of possible customer confusion and concern: national media, including social media, which we monitored daily; reports and anecdotes from your call centers; insights from your colleagues who interact with elected officials, business customers and special needs customers; and of course, your change champions, who can alert you to employees' questions. In addition to receiving daily reports from our customer advocacy team, we held a weekly call to check in with all of these groups. And for extra insight, there's no substitute for listening to calls from customers."

—Barbara Leary, Senior Director, Marketing & Communication, FPL

Developing a Customer-Centric Engagement Plan Things to Consider

Recommending that you create a plan seems obvious, but for Smart Grid, the plan is not just about when and where the utility will install the technology or offer a new product or service. The plan is a multi-faceted, integrated road map that also considers how the technology and new products and services will intersect with the customer, and other (existing or planned) services. This section of the Guide includes things to consider in your customer engagement plan that would be incorporated into the organization's overall smart grid deployment plan.

Smart meter installation is generally a customer's first experience with energy management. Installation of this technology has been the impetus for many utilities to actively engage with their customers to help them understand the technology and its benefits. Therefore, most of the ideas in this section are applicable to customer engagement in general, but others are specific to AMI deployments. For example:

- Start (ideally) your stakeholder engagement planning 12-18 months prior to the technology deployment to help lay the groundwork and make sure internal and external stakeholders are on board.
- Create a comprehensive plan that covers all phases of the deployment, including what you will do after the technology is installed and how the utility will handle the data.
- Allow time in your plan for delays and unexpected events. The ability to be flexible and responsive to changing conditions cannot be emphasized enough.

This section lists things to consider in the development of a smart grid customer engagement plan. Again, this Guide is not meant to be comprehensive; the intention is to highlight information that was shared by participating utilities. This is what they learned during their own deployments.

Engage Your Stakeholders

For the purpose of this Guide, a stakeholder is someone who is a decision maker or influencer in your community. Customers, community groups, consumer advocates, politicians, and religious organizations are all examples of stakeholders. The benefits of proactively engaging your stakeholders as partners in your smart grid process cannot be overstated. Input from a broad range of stakeholders with varying experiences leads to greater understanding of customer wants that can be used to educate and engage your customers. Inadequately communicating with your community, legislators, and regulators in the planning process can lead to misunderstandings that may negatively impact the outcome of your project. On the other hand, informed stakeholders who see the value in smart grid investments and participate in a collaborative process can become your best advocates and sometimes the best voices to counter unsubstantiated concerns. The bottom line is collaborative efforts help reduce tensions and ease adversarial relationships. Think collaboratively.

Note: We have not included customers as stakeholders in this section as other sections of the document address that audience in more detail.

Voice of Experience

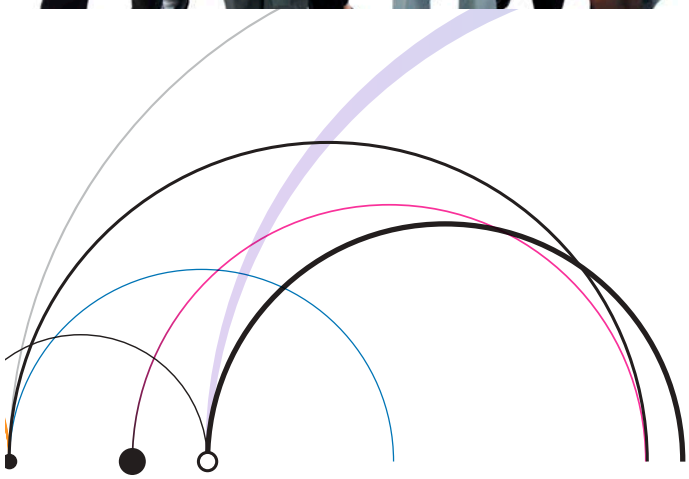
Being flexible with your plan

"When we were two months into our AMI deployment, I realized I needed help to deliver our message. To do this we partnered with nonprofits that had great customer relationships and were already out educating on sustainability, water conservation and other issues. However, they weren't talking about energy. By partnering with them, we gave them another tool for their toolbox and we got great spokespeople to get the word out. Thus, our Green Partners Program was born."

—Risa Baron, External Affairs Outreach Manager, San Diego Gas & Electric

Industry Insights

- Identify key stakeholders in your community.
- Recruit leaders from diverse community groups to reach as many segments of your community as possible.
- Expect to contact people many times.
- Create "mini" communications and risk mitigation plans that identify necessary actions and goals for each stakeholder group, and develop specific talking points for each group.
- Start educating and engaging your customers and other stakeholders before the equipment is installed. It is easier to educate upfront than to react to negative responses once the equipment is being installed.
- Transparency – Be visible and ready to answer questions about all utility issues.
- Invite your stakeholders to ask questions and voice their opinions. (Become good listeners!)
- Include broader collaborative efforts such as:
  - Customer symposiums
  - Critical consumer issues forum
  - Community summits – Bringing stakeholders (consumer advocates, regulators, civic and business leaders, etc.) to the table to plan events gives everyone a vested interest in the project's success.



Partner with Community-Based Organizations

- Partnering with Community-based organizations (CBOs) is critical for buy-in from the community. They have established trusted relationships with different consumer subgroups. When they understand and believe in the value of smart grid investments and benefits, they can be one of the best voices to explain your project and counter unsubstantiated concerns. And partnering with CBO's can be a cost-effective way of increasing the delivery channels of your message by building significant numbers of smart energy champions.
- Bring CBO's into your engagement process early. Working with community-based organizations can help build trust and enhance your message. Listening and responding to their questions will provide insight into customer concerns.
- Bringing stakeholders (consumer advocates, regulators, utilities, civic and business leaders) to the table to plan outreach programs and events, gives everyone a vested interest in their success and the underlying technologies and policies.
- Community groups appreciate being asked to help and enjoy being recognized as experts by their respective constituents. Providing a grant or financial support is often appreciated by the organizations to help defray their staffing costs and pay for educational materials. Remember, this does not mean they will deliver your message the way you want. It may be difficult to relinquish control, but utilities have found it to be a highly valuable relationship.
- Regional planning efforts that incorporate smart grid issues with broader energy efficiency, generation, and transmission concerns give more visibility to the societal benefits of smart grid deployment, including environmental impacts, grid resilience, and collective investment to replace aging infrastructure. Inspiring visions with big goals are a good way to align stakeholders with related interests.

- Cleantech groups and university sustainability departments are tremendous assets, as are committed municipal leaders.
- Have stakeholders speak on your behalf to other stakeholders; it will go a long way in building credibility.
- Focusing people with different perspectives on solving common problems gives them a greater sense of appreciation for others' points of view.

Stakeholders and Key Considerations

Most stakeholder groups will see electricity-related policies as a potentially important topic for their constituents, and it is important to frame issues for them from their perspectives. This table provides examples of approaches and strategies for talking to various stakeholder groups. The blue shading indicates that the segment is directly involved in the regulatory process and has statutory responsibilities for regulated utilities.

Stakeholder Group	Examples of Approaches and Strategies
Employees (especially those in the escalation process)	• Use a change management approach to manage reorganization. • Involve human resources department and bargaining unit when necessary (for example, if job descriptions are changing or retraining will be required). • Communicate with employees, set expectations, and keep them informed. • Share plans with employees and ask for feedback. • Train all employees (online or face-to-face). • Recognize that unique training may be required for remote or rural locations.
Technology vendors	• Partner with them during the deployment as a key part of deployment team. • Partner with utility and industry about smart meter issues such as RF, privacy, and security concerns. • Get their help in developing communication materials especially regarding safety, security, and privacy.
Elected officials (May have direct oversight of municipal utilities and cooperatives.)	• Brief local, state, and federal representatives before customers. • Brief the governor's office, if appropriate. • Provide speaking opportunities at events– incorporate into deployment. • Provide technology tours. • Have an on-call lobbyist who can meet with officials. • Involve DOE if possible.
Regulators muni utility/co-op utility governing board	• Create a technical advisory group and include PSC/PUC, energy commission, consumer advocates, and industry leaders. Meet quarterly to provide updates beyond statutory requirements. • Brief regulatory personnel as needed, file quarterly reports, and communicate regularly. • Communicate information from a consumer point of view so regulators hear from the silent majority. • Bring the regulators into deployment early in the planning process – Don't surprise your regulator.
Customer advocates: statutory and interveners	• Work with customer advocacy groups to address concerns, reaffirm consumer protections, and confirm benefits and potential capabilities of smart meters in addition to statutory process. • Be consistent and transparent. • Develop relationships so they are treated as valued ombudsmen and become allies rather than adversaries..

Stakeholder Group	Examples of Approaches and Strategies
Low-income assistance agencies	• Work with agencies to address concerns, reaffirm consumer protections, and confirm benefits and near-term capabilities of smart meters. • Develop practical education plans focused on using smart meter information to reduce/defer energy use and take advantage of available pricing programs. • Tie energy literacy programs to subsidies and discount programs as a means of identifying people willing to commit to action.
Community-based organizations (environmental groups, faith-based groups, family service groups, etc.)	• Invite them to participate in energy literacy workshops, summits, and community steering committees. • Attend their meetings and events, answer questions of their constituents, and provide general or customizable materials about smart meters, benefits, etc.
Associations such as businesses and clean-tech associations, trade, local business	• Develop messages around economic development, clean jobs, workforce education, and training opportunities. • Involve members as experts in energy literacy programs, steering committee members in summits, and other events.
Media	• Goal is receive positive to neutral media coverage. Develop a relationship before the deployment. Be proactive, transparent. • Provide ongoing education (brief the media before, during, and after rollout). Utilize online media outlets and community publications.
Public safety	• Focus on benefits of the technology and potential outcomes of NOT upgrading the infrastructure. • Brief law enforcement personnel about contractors and the installation process. • Educate fire departments and emergency personnel about smart meters, remote disconnect features, etc.
Schools and colleges	• Offer pilot program opportunities if possible. • Collaborate with colleges to offer courses in how to save energy. • For lower grades, teach about energy, generation, conservation, and technology. • Make the most of education, outreach, and training opportunities.
Neighborhood groups and home owner associations (HOAs)	• Partner with external affairs representatives or PR team to provide presentations and set up booths at community events. • Prepare to answer energy questions beyond the Smart Grid.
Anti-smart meter groups	• Recognize the anti-smart meter groups are customers, too. • Listen to their concerns and address them, but know you may not be able to change their minds. • Build a relationship if possible. • Have a well-trained team to address customer complaints. • Dedicate a group of customer service representatives to receive elevated calls. • Customize the communication or message. • Provide media training for utility staff. • Handle individuals on a case by case basis, rather than as a group.

Create an Advisory Panel

Consider creating an advisory panel consisting of regulatory and other interested stakeholders that you will meet with regularly to discuss the plans for deploying the technology and engaging the customers. Whether established voluntarily or through regulatory mandate, these panels have been found to be very successful in building trust and communicating with key stakeholders.

- The earlier in the process this group is developed, the greater its value.
- Keep the advisory group well-informed of project developments, and make sure to listen and address their concerns.
- Be transparent – keep the dialogue open and frank. Be visible and ready to answer questions about all utility issues.
- Stakeholders develop a sense of trust when they can witness the process from the inside.
- Statutory consumer advocates and regulators who are part of the process will make it much easier to connect with other organizations and agencies.

TIP

Communicate with your regulator as you develop your customer engagement plan so they know what to expect before you file the plan, and what they can expect to hear from customers.

Examples

- When Vermont deployed AMI, it created an inter-utility collaborative called **eEnergy Vermont** to coordinate communication with stakeholders throughout the process. Specifically, there was a Communications Subcommittee that met monthly with stakeholders around the state. The collateral that they produced can be found here.
- **Southern California Edison** (SCE) Community outreach efforts included coordinated meter deployment updates to customers by deployment district, community forums, local government briefings, and updates to local community groups. Multi-channel, multi-touch direct marketing efforts included a wide variety of customer touch points, such as direct mail, shared mail, email, bill statement inserts, community newspapers, outbound telemarketing, digital advertising, door hangers, flyers, events at county fairs, and "Carl & Eddy" animated vignettes that appeared on YouTube, SCE.com, and in local theaters. Along the way, SCE continuously reached out to customers to fine-tune its communication messages based on primary qualitative and quantitative market research, such as web usability research, experience satisfaction surveys, and focus groups that sought customer feedback to modify the marketing approach or customer experience as needed.
- **PowerCentsDC** was a collaborative effort formed around the rollout of pilot Smart Grid program in Washington, DC. The group included the local utility (Pepco), consumer advocacy groups, the DC Commission, and a representative from a local union. These stakeholders had different priorities, and at first they thought that the process would be fairly adversarial. Yet they worked well together and their unique experiences allowed them to see problems from different perspectives. As the final activity of the *PowerCentsDC*, pilot project, the organizing group funded a one-day Energy Literacy Workshop for Community-Based Organizations. Hosted by Pepco, the representatives of 17 local and national non-profits discussed

Voice of Experience

Community College Classes – Learning to Save Energy

"After attending our Energy Savings Essentials classes, participants had detailed knowledge of FPL's Energy Dashboard and knew how to use it to save money. We have helped young and old people, college students who assist their parents, moms and dads, small business owners, and representation from all ethnic groups across our Miami-Dade community. Many have written back to their professor letting her know how much they have saved monthly on their electric bill."

—Dr. Kathie Sigler, former president of the Medical Center Campus at Miami Dade Collage, who collaborated with FPL to create Energy Savings Essentials

policies such as dynamic pricing and learned how AMI would be relevant for their constituents. A toolkit with materials that could be used or modified for their groups was provided. Watch it on YouTube.

- **Entergy New Orleans** partnered with community groups as part of their SmartView pilot project. To partner with groups, Entergy invited New Orleans-area nonprofit and community development organizations to attend a project scoping meeting. The intent of the meeting was to get a better understanding on their level of support (i.e., solicitation, enrollment, and training). After the initial scoping meeting, Entergy sent out a request for proposal (RFP) to all interested organizations. Seven nonprofit organizations responded to RFP, and all were contracted at various levels to support the project.
- Worcester Community Summit (Broader Collaboration)—**National Grid** decided to work with the city's Sustainability Office and locate their 15,000 household pilot in this diverse city that is representative of the state population as a whole. They invited key stakeholders to be part of the steering committee for a Community Summit. (See www.green2growth.com.) As part of the planning, the group identified the mix of roles/perspectives desired to be part of the visioning process. Each committee member identified specific people they knew (and provided contact details, which saved tremendous time and opened doors.) Those personal relationships and follow up were why 300 community leaders were willing to spend two workdays focused on the community's energy future. The steering committee morphed into a Green2Growth Council.
- **SMUD** leveraged board members to get into neighborhood groups, rotary groups, and other community organization. They also created an ambassador group comprised of employees interested in talking to their churches, clubs, neighborhood associations, etc.
- **San Diego Gas & Electric** (SDG&E) assembled a "technical advisory panel" of industry representatives, technology experts, environmental advocates, and regulatory officials, which met regularly and developed a holistic approach to standardizing messages regarding the reliability, safety, security, and efficiency of smart meters. The members of the group acted as spokespersons and provided a credible and reliable source of information, which gave customers more confidence in the utility and its smart meter deployment initiative. Discussions between the utility and the stakeholders were frank and honest, and this transparency led to better communications.

How do you do this?

- IBM Global Utilities Survey
- NV Energy AMI Project Implementation Handbook

Enlist Utility Employees

Your own employees can be some of the best ambassadors for smart grid customer engagement. Not just the customer service department, meter installers, and marketing department—EVERY employee. As employees go about their daily lives in the community, they will encounter opportunities to interact with customers. Knowing about the smart grid projects going on at their work—the schedule, benefits, and objective—can turn informal encounters into opportunities for the utility to enhance their message and extend their brand.

Industry Insights

- Teach utility employees about the key components of a smart grid project, including the objectives, schedule, benefits, and new products and services.
- Staff at all levels of the company need to understand the project and be able to talk about it and answer questions.
- Empower employees by providing the tools and information to effectively communicate the utility's message.
- Use internal education to help provide faster response to customer questions. It can help quell negative reactions and publicity.

TIP

Manage Cultural Change

Create and communicate internal programs to retrain employees in positions (meter readers, theft investigators, etc.) that may be impacted by the smart grid technology.

- When talking with friends and community members, employees are perceived as experts due to their relationship to the organization. Their viewpoints can have a large impact on the community perspective.
- Whenever new technology, products, or programs are introduced to customers, train employees—and not just customer service representatives—on how it works. Or, better yet, provide the new technologies and programs to employees prior to deployment to use as a customer would. This will help you to determine what issues need to be addressed prior to broader implementation.

Examples

- **OG&E** created a smart grid ambassadors program where employees volunteered to become representatives for the implementation. They were sent a packet with quick facts, a brand shirt, smart grid branded items, and were kept advised with weekly email updates of installation and progress, as well as milestone accomplishments with quarterly luncheon meetings with leadership. This program was later incorporated into a new employee initiative called SMART-E, which was activated one year before the conclusion of the meter installation. This recruitment was companywide and included a baseline of smart grid and product education utilizing a gamification strategy for the first smart-grid enabled product rollout, SmartHours, a variable peak pricing rate offer. Almost 30% of OG&E's employees volunteered to become active and knowledgeable advocates of the technology and engaged friends, family, and neighbors. This mobilized grassroots dialog within their circle of influence and provided the company a frontline with customers and valuable feedback. OG&E's employees activated the brand promise and achieved together the company's commitment to be a Positive Energy partner with customers during this technology transition.
- Once the decision to implement AMI was made, the General Manager of **South Alabama Electric Cooperative** (SAEC) involved all key staff and departments in the planning of the program. He brought in the two leading vendors for an in-house presentation. Employees from each department were present to learn about the ability, function, and installation of the equipment. The system engineer and engineering assistant worked closely with communications and marketing on all pieces created for the members. Dates and installation progress was reported at weekly staff meetings. Communications/Member Services identified key messages and production schedules, coordinated information between departments, and worked with vendors on needed graphics and technical information. See the SAEC template.
- **Kauai Island Utility Cooperative** used their employees as trusted ambassadors. They created a print ad with the faces of 100 employees headlined, "Our commitment is to your safety" that urged customers to get the facts about smart meters.
- **Glendale Water & Power** (GWP), the first U.S. utility to complete its smart meter rollout, put special emphasis on its call center training, recognizing that these representatives are the ambassadors of the utility. GWP implemented a "gamified" solution from a specialized vendor for identifying strengths and weaknesses in the knowledge base of their call center reps, reinforcing critical information, and achieving their targeted goals in six months. GWP then used the same gamification solution to pilot a customer engagement and education program, recognizing that the combination of internal and external education, and making it enjoyable for all, increases the utility's ability to advance the adoption of grid modernization information.

Voice of Experience

Employee Engagement is Key

"Employee engagement in an AMI project is key to its success. Our general manager involved every department in the program. From the decision on which vendor we went with, to the customer programs, to the installations on the system - each department from billing to service was kept in the loop through the whole process. Our education process with our members began a year ahead of the actual first meter installation and continued throughout the whole deployment. Communication with members and employees is vitally important to a smooth process."

—Chellie Phillips, South Alabama Electric Cooperative

Know Your Customers

Knowing your customers and appropriately segmenting them is arguably one of the unanimous recommendations from the participating utilities and applies to all areas of customer engagement. Segmenting customers allows utilities to deliver messages and products that are customized to the customer's needs and behaviors, using channels that are specific to their preferences and attributes. Customers are happier and the utility uses their marketing resources, both time and money, more efficiently and effectively.

Industry Insights

- Recognize there are differences in customers that will determine how they value products and services. Some will use their usage information to make conscious behavioral changes while others will prefer an automated or "set it and forget it" approach to managing their electric usage.
- Don't assume your customers are segmented by economics; their worldview may be a more effective way to segment.
- Segmentation used for analysis may not be the same as labels used for self-selection by customers.
- Market research becomes more valuable when utility employees can experience the differences in their customer segments through face-to-face exchanges.
- Segmentation studies prior to deployment will help identify a baseline and will support the forecasting and design of appropriate programs and options.

- Use the information about your customer segments to develop effective messages and communication channels that are specific to each customer group.

Examples

- Previously **San Diego Gas & Electric** (SDG&E) used a single platform for communicating with customers; however, during their AMI deployment, SDG&E used a multi-platform approach that segmented based on the following preferences: 1) demographics and home characteristics, 2) energy efficiency and conservation behaviors, 3) electric rate attitudes, 4) perceptions of utility, 5) electricity usage and contact history, 6) communication channels, and 7) attitudes regarding energy usage, cost, and the environment.
- **Delmarva Power** used customer segmentation to identify customer communication preferences and the appropriate benefits to discuss with different segments. Some customers are more focused on the environmental benefits, while others are more interested in understanding their energy usage so they can save money. The segmentation also assessed customer interest in technology, both in terms of communications channels and the ways that customers want to monitor their energy usage. This information enabled Delmarva Power to more effectively design programs, tools and messages, and helped them refine their communications channels.

How do you do this?

- The IEEE Power and Energy Society recognizes that human-centered design has the power to change the dynamic of the public conversation and contribute in meaningful ways to the "cultural change" demanded by Smart Grid. The IEEE Constructive Engagement Toolkit is available online.
- The findings in the Accenture report, Actionable Insights for the New Energy Consumer (2012), support the notion that people have widely different perspectives towards energy.
- The Smart Grid Consumer Collaborative produced a video based on their in-depth studies to demonstrate that different smart grid benefits are important to different customers showing the need to tailor messages to different groups. Watch the video on YouTube.
- Making Research Actionable—National Action Plan Communications Umbrella: Action Guide
- Customers as Grid Participants: A Fundamentally New Role for Customers

Create a Product Road Map

Customers need to see a benefit on day one of the technology installation. One of the challenges is to help customers understand the benefits of the Smart Grid. (You need to help your customers understand what is in it for them!) Utilities can create consumer support and advocacy by launching consumer-centric products and services in parallel with the technology deployment. The right products and services offered at the right time for each customer segment is key to realizing the benefits of the Smart Grid for both customers and utilities. In this Guide, the word product also refers to services that a utility might offer its customers.

Industry Insights

Do Your Research

- Conduct a survey of your customers or study emerging consumer research to determine the specific products, services, and features to implement.
- Have personal conversations (on the phone, online, or in person) with customers to determine what they care about, want, and need.

Develop Your Plan

- Develop a product road map that includes having a product that provides consumers with energy insights, choices, and convenience options available when the meter is installed so consumers can understand and see the benefits on the first day. For some, the roadmap may only include a couple of products (perhaps time-of-use rate or home energy monitor); for others, it will be much more robust.
- Give customers choices. Develop a range of products and services that demonstrate value to the consumer. Customers have different preferences and needs (segmentation) so they will value different products and services.
- Give customers the choice not to choose; customers want the choice to do nothing.
- Make your programs, products, and services voluntary, easy, and pleasant.
- Consider the benefits of making a program opt-in versus opt-out.
- Develop a web portal with easy access to information about the utilities programs, products, and services such as personalized energy management information, alternative rate and payment plans, and tools for energy management.

Voice of Experience

Smarter Messaging

"From day one, we started offering a number of valuable services that our customers really appreciated. These included things like outage communications, energy charts, rebates and alerts for peak time reductions, and weekly email alerts. We took a new approach and segmented our customers to offer the email alerts to the customers we thought would value them most. The feedback has been great – I would say that the emails themselves are the tip of the iceberg as far as what we can offer the customers due to our smart grid efforts, which is very exciting. The reason I believe it was so well received is due to the fact that we effectively targeted to ensure we were providing the right information to the right customer class in a channel that they preferred."

—Ted Reguly, San Diego Gas & Electric

Examples

- **Glendale Water and Power** (GWP) in partnership with CEIVA Logic, developed a unique home information system to be used for its 120,000-customer Smart Grid/AMI implementation. The device, a cloud-based digital picture frame, integrates real-time usage and cost data into the personal photo stream of the frame. In addition, it provides historical usage data, in-home load control, utility and community messaging, alerts and many other packets of information. Since the utility information is integrated in the customer's ever-changing photo collage, it is an engaging way to provide utility customers with a relevant and creative means of communicating with their meter data, their home control system, and the utility itself. GWP initially provided 300 CEIVA units to its customers on a pilot at a no-cost basis. As word of mouth interest in

the frame's capabilities grew, a groundswell of demand for these units created the need to greatly expand the offering to a much larger customer base. GWP is currently developing a program to methodically provide as many of its 120,000 customers with the CEIVA units as the demand dictates. An initial quantity will be provided by GWP to customers at no cost but will eventually require customers to be responsible for a portion of the cost. To date, GWP's experience with this HAN in-home device has been so extraordinarily positive that there is a substantial waiting list for them.

- See **Reliant's** framework for Smart Gird enabled products and services on page 45.

Voice of Experience

Empowering Customers

"Smart technology has given our customers tools to help them understand their energy use and empower them to manage their energy in a way that suits their lifestyle. Our SmartHours program already has saved customers hundreds of dollars on their energy bills, and the operational savings and demand reduction we've realized can save customers even more."

—Jesse Langston, VP Retail Energy, OG&E

Develop the Right Messages and Channels

Search the Internet and you will find many different examples of messages and approaches to introducing the Smart Grid, smart meters, and the many programs available to customers at different utilities. These differences are a testament to the uniqueness of each utility's situation and the importance of creating a customer engagement program that addresses the needs of your customers. The same principles are applied to selecting the marketing channels to deliver your messages. Know your customers preferences and choose the channels that meet their needs.

Industry Insights

Do Your Research

- Listen first. The initial information gathering process is integral to building messages that engage your customers.
- Know what your customers want and what resonates with them. (It may not be what you think!)
- Use focus groups to test your messages. (Then make adjustments and test again!)
- Don't shape your messages around a vocal minority.

Make a Plan

- Create a map of messages that corresponds to your customer groups.
- Maximize your results by developing messages and channels that are customized for each segment.
- Stage your messages to correspond with the deployment phases.
- Build customers' knowledge. With knowledge and information, customers are more open to new products and services. Remember, customers are still learning about the technology.
- A step-by-step approach to raising awareness, educating and engaging customers will build the customers' knowledge.
- Be flexible and make adjustments and changes as new information and situations arise.
- Get out in front of possible negative issues. Make sure everyone in the company can respond consistently.

- Develop a media plan with your spokesperson, and then vet all materials with them so they can easily respond to media inquiries.

Consider These Tactics:

- Community events are an opportunity to meet face-to-face with customers and they include:
  - Volunteer support of local non-profits by utility employees
  - Participation in local events organized by other groups
  - Community meetings
  - Energy literacy workshops with community-based organizations (CBOs)
  - Support of and education through CBOs
  - Community summits
  - Community-led prototype activities (post-summit).
- Use mobile road shows or demonstration centers to inform the customers about the technology.
- Work with community colleges and nonprofit organizations to develop curricula and teach customers about managing energy or new tools and products. This approach may help you reach additional customer segments like non-native English speakers or low-income customers.

Tips on Messaging

- Focus on the benefits to customers and what is in it for them, but do not oversell the benefits.
- Do not focus on the "smart grid or smart meter" when educating consumers. Customers do not always care about the underlying technology; focus on the products, services, and benefits it enables.
- Avoid technical terms such as kWh to describe usage. Equivalencies such as "this is enough electricity to power 10 homes for a year" or "that's about $1,200 worth of electricity" are more helpful.
- Include a simple call to action that is relevant to the specific segment. For example, "Consider signing up for a time-of-use rate" or "Your usage is 30% higher than the same month last year. Check to see you're not leaving your computers on at night."

- Semantics matter. Test messages first to see what resonates with customers.
- Do not become locked into the words. The words you use will need to be flexible and organic as people become more familiar with the product. Emphasis will shift as consumers become more educated or new audiences are introduced. However, one key theme, like "Take Control," can create a consistent backdrop for communications.
- Develop messages and communication materials in the languages spoken in your service territory; e.g., if a large percentage of your customers speak Spanish, develop materials in Spanish.

Talking to your Customers

- Proactive conversations with consumers should be an ongoing activity.
- Have subject experts available and ready to be deployed, if necessary, to talk with customers.
- Be careful to respect various customer engagement thresholds: engage those consumers who want to be engaged, but do not engage those who do not.

Examples

- **Oncor** developed a multi-year consumer education program pre-AMI deployment across internal/external audiences including regulators.
- **Southern Maryland Electric Cooperative** (SMECO) generated three marketing communications messaging strategies and presented them to multiple focus groups with individuals of varied backgrounds. The messaging and design were critiqued openly for general perception, the takeaway message, etc. The factors that affected perception were surprising to the creative team who were deeply enmeshed in their perspectives in the creative process. By utilizing the customer feedback, the team was able to redirect their efforts and incorporated feedback from the customers. This initial information gathering process was integral to ensuring the eventual communications materials would serve their purpose, garnering a greater return on the investment of the efforts to actually produce results. It is important to try things and obtain actual reactions outside the sphere of those enmeshed with the messaging.
- **Glendale Power and Water** (GWP) developed communication materials in English, Spanish, Korean, and Armenian. Materials ranged from website content and informational videos to press coverage and newsletters. In addition to open houses and town hall events, GWP also hosted Coffee in the Park events where they went to 10 or 12 different parks to talk with customers, provide information, and answer their questions. Staff had to be prepared for all types of questions, because customers did not want to talk just about their smart grid project and the smart meter installation but also brought any bill questions they had.
- **Southern California Edison** (SCE) launched a suite of customer engagement programs and services. From the onset, SCE realized customer outreach and engagement were critical. To reach customers, SCE implemented an innovative "Customer Engagement Model" that framed the customer outreach and communication approach based on a cycle of "Discovery, Activation, and Participation" to educate customers and create awareness for new smart meter enabled programs and services. The Customer Engagement Model consisted of a multi-faceted approach that engaged a cross-functional team that combined community outreach and direct marketing to create a program that included regular communication and outreach activities targeted at customers at key program stages–as customers first received their smart meter and then as Edison SmartConnect enabled programs and services became available.
- To provide information about new programs, **Southern California Edison** created Carl and Eddy vignettes in both English and Spanish. In addition to being on YouTube, the vignettes were also played in movie theatres to get information out to their customers. For movie theater placement, they shortened four of the English vignettes down to 90 seconds to run as trailers. The shortened vignettes covered Budget Assistant, Save Power Days, What to Expect with the New Meter, and New Online Tools (My Account). They also shortened three of the Spanish vignettes for theater placement: Budget Assistant, What to Expect with the New Meter, and New Online Tools (My Account).
- **OG&E** branded its customer partnership program, Positive Energy®, to engage their customers. The program was implemented through a comprehensive campaign using multichannel marketing that included an extensive TV and radio media campaign, mailer, and community outreach. Results: 98% of participating customers are saving money by reducing their peak energy usage; 88% of surveyed customers believe OG&E is helping them use energy more efficiently.

- **Pepco** engaged customers early and created a "Take Control" theme for its customer education campaign – a direct result of what resonated most with customers. They promoted a consistent series of messages packaged under the "Take Control" theme that generated equity in the campaign which increased customer awareness.

How do you do this?

- Channel Communications Framework
- Developing a Messaging Map

Use Social Media

Social media is one of many channels that utilities can use to communicate with their customers. Social media is highlighted here because it represents a paradigm shift in the utility-customer relationship. Social media provides an opportunity for open, timely communications with your customers, and it allows users to respond immediately to messaging, which helps the team to know what is working and to quickly alter the messages that are not as effective. The more you talk – make that listen – to actual people, the better you will understand your customers' perceptions and preferences.

In addition, the speed of social media makes it a great tool for communicating timely information such as outage management. On the other hand, its speed means customers can spread the word about their bad experiences quickly, too. While you cannot monitor or control what happens over social networks, used judiciously, they can be an effective tool for engaging your customers.

Industry Insights

- Use social media to gain insight into your customer segments' patterns and how your messages are being received.
- Use social media monitoring tools to help you identify relevant social conversations.
- Be proactive. It may cut down on the need to be reactive.
- Be prepared to respond to negative social media. One customer's bad experience can go viral very quickly. But think twice before you respond using social media (see tip box on page 26).
- Grow your social media messages in a grassroots, natural way that targets individuals while still allowing the marketing and communications team to shape the content and emphasis.
- Respond to misconceptions and misinformation quickly, but never sound defensive.
- Only open a social media channel if you can staff it. The worst scenario in social media in being non-responsive.
- Ensure that personnel using this mechanism understand all aspects and benefits of the project, and also understand possible flashpoints or contentious issues. The more people who understand the issues and can speak authentically in their own words, the more effective this channel will be.

Voice of Experience

Social Media and the Smart Grid

"Our customers are more "wired" than many of us may realize – and at SDG&E we took the approach to leverage online and social media channels to create a deeper conversation with our customers. We made an early decision to deliver our messages via the communications channels that our customers prefer. We respond promptly to customer inquiries and complaints sent via Twitter and Facebook. We also launched the San Diego Energy Challenge with Simple Energy, which integrated Facebook friends, smart meter data, and the ability to create a community conversation about saving energy with real data and results. The mayor of San Diego was so excited by this that he tweeted about our new program! We were happy to serve our customers in this way and find added benefits to our smart grid investment."

—Ted Reguly, San Diego Gas & Electric

- Pair utility system experts with tech-savvy staff to leverage social media outlets to help customers understand their usage and take control, to appreciate operational efficiency benefits and disaster recovery efforts, and to correct misinformation.
- For energy management portals that utilize social media, make sure the monitoring of the portal and the messaging are in line with company and project social media goals.
- Keep abreast of trending social media channels; they change quickly too. Do not assume that your customers are all on Facebook or Twitter.

When Not to Use Social Media

Twitter is not always an effective media for refuting inaccurate data or inflammatory statements. Handling customer concerns offline through direct contact may be a better way to counter misperceptions and address specific questions.

Examples

- **San Diego Gas & Electric** (SDG&E) handled negative tweets by emailing customers directly and asking to have a follow-up phone call.
- **Florida Power & Light** (FPL) monitored social media outlets to get a sense of the customer sentiment in other states as well as within its own service territory and to anticipate emerging questions and concerns. Its communication team shared this information with customer-facing teams, and provided them with messaging. FPL also posted information—including reports from independent third parties—on its website to help educate stakeholders.
- **OG&E** instituted a closed group Facebook page during the pilot of its SmartHours program in 2011 to 6,000 residential customers. These customers shared success stories and provided feedback about what was working and what was not. The information gathered was instrumental in developing communications during the SmartHours roll-out to all customers in 2012. The group page was turned off after the pilot, but participants in the initial group page now are active on OG&E's regular Facebook page and last year were able to answer new customer questions and advocate for the program.
- **Duke Energy** has integrated their social media tools to promote smart grid benefits to its customers. This Tweet, for instance, promotes the benefits of self-healing technology installed on the power grid while also linking to a video demonstration: Nearly 22,000 Duke Energy Ohio customers have avoided power outages thanks to the smart grid. Here's how http://youtu.be/3BF02P9jrKU
- **Public Service Electric & Gas** was recognized for its use of social media to communicate with customers during Superstorm Sandy, after which the utility had more followers than any other U.S. utility.

How do you do that?

- Social Media for Utilities: The Top 5 Takeaways
- Four Things Utilities Need to Know to Stay on Top of Social Media

Identify Key Metrics for Customer Engagement

Metrics are used to show success, explain challenges, display benefits, and tell a story. Customers, regulators, and utilities view the success of smart grid programs through different criteria, which will require different metrics. And as the customer relationship changes, the metrics used to evaluate the success of the engagement program will change too. For example, call centers were once measured on quick call times. Now a quick call doesn't always measure success; sometimes it is necessary to take the time to listen and respond to customer concerns. Before you start your customer engagement program, know what will be used to measure its success. Think holistically; you will need to use data to demonstrate success, explain challenges, display benefits to all parties, and demonstrate overall program success.

Industry Insights

- Metrics are used to measure all aspects of smart grid projects and may include:
  - Customer-related awareness, understanding, satisfaction, etc.
  - Operational benefits (savings due to avoided truck rolls, etc.)

- Capital savings (avoided transmission and distribution infrastructure costs)
- Societal savings (reduced greenhouse gases, reduced energy theft, etc.)
- Project execution (meters installed vs. target)
- Safety record (OSHA recordable incidents)

- Develop metrics that track customer awareness of critical smart grid benefits and concepts and that measure the reach of the program and the levels of customer engagement.
- Specify metrics to achieve goals or measure success. Possible metrics:
  - Desired customer attitudes (neutral to positive),
  - Acceptable number of opt outs
  - Adoption rate of customer applications and tools.

Determining What to Measure

- Take a broad approach when determining key metrics by considering all relevant parties both internally and externally. Meetings with various stakeholder groups can provide information or insight into more exact requirements.
- Understand all stakeholders' requirements and use the information to develop a research strategy for developing baselines, determining requirements, and gathering data.
- Align metrics to the marketing and communications strategies.
- Obtain executive approval and buy-in to your plan before implementation. This helps ensure accountability, accuracy, and cooperation from the various departments that will need to provide data.
- Select research methods based on specific research questions, both qualitative and quantitative. Examples include surveys, focus groups, in-depth interviews, social media monitoring, and integrating segmentation level customer information into research activities. Quantitative (survey) methods (i.e., number of events, website views, etc.) are required to evaluate consumer opinions of and reaction to smart grid deployment.
- Realize that research requirements can–and will–change throughout the project. Be flexible.

Storing and Managing Data

- Create a data repository for program reporting and management with governance for access and control.
- Develop a retention schedule so that appropriate sizing of data storage is available. In addition, establish a method of document destruction.
- Establish a process for collecting the data and circulating the metrics to ensure that the right people or organizations are able to view those metrics. The process should be designed so new metrics and audiences can be easily added. New metrics often arise during the project.
- Any metric communicated outside of the official project team should reference the collection date.
- When developing or evaluating systems to track and maintain data, utilize common data fields like metric name, definition, calculation methodology, data source, etc.
- Analyze each metric individually, but at the same time develop a framework that allows the overall success of the program to be quantified by evaluating various metrics together.

- Determine if and how long project data should be stored and the security level required.

Examples

- **Baltimore Gas & Electric** employed one person to focus strictly on metrics for the Smart Grid AMI deployment project. That person focuses not only on gathering stakeholder requirements, but also on getting buy-in from all impacted parties on how to measure and report these metrics. This allows for consistency in data reported both internally and externally. Of course, the needs in this realm will vary with the number of stakeholder groups involved and some utilities may find they are able to manage metrics without a dedicated full time resource.
- **Pepco** uses a number of different metrics to measure customer awareness of their smart meter installations and the ongoing customer education related to energy management tools. Both survey data and customer usage data across all channels are used to understand customer awareness of the energy management tools and receipt of customer education. Pepco research data show that all customers may not access their hourly usage data regularly, but knowing it is available when they have a billing question is an important aspect of customer education. Customers across different segments use different channels, so periodic usage can be just as important to monitor as those who log in frequently.
- **Ameren Illinois** customer engagement metrics included in the approved AMI plan included:
  - Number of customers able to access the web portal and web portal usage statistics
  - Number of customers eligible for Peak Time Rebate tariff
  - Number of customers signed up for Peak Time Rebate tariff
  - Number of customers on PSP, RTP, or other real time rates.

  In addition to the above tracking mechanisms included in the AMI plan, Ameren Illinois is considering the adoption of additional tracking mechanisms proposed by the Citizens Utility Board (CUB) in conjunction with the Environmental Law & Policy Center (ELPC) and the Environmental Defense Fund (EDF). Ameren Illinois participated in several discussions with these stakeholders and has voluntarily agreed to track 20 additional metrics.
- **Reliant Energy** tracked several key metrics including the number of customers on different smart energy enabled products and services that it offered. All metrics had goals or targets, and weekly meetings ensured that those goals were being met. These metrics received a great amount of visibility as they were circulated to the entire project team, including the president of Reliant Energy. This visibility ensured that goals were being met and corrective actions were taken to ensure appropriate customer engagement and adoption of customer programs. Some of these metrics were even shared with the DOE and the Public Utilities Commission on a regular basis to increase visibility and accountability.

Types of Metrics

- Awareness levels (measured via focus groups/surveys)
- Number of customers using each product or service
- Retention rates
- Number of households eligible for a new program
- Percentage of customers on new plans that are shifting usage
- Opt out rates
- Customer satisfaction
- Number of people attending interactive events
- Number of customers choosing particular products and services
- Number of community-based organizations actively engaged in programs
- Number of claims and complaints

Assess and Manage Your Risk

In a perfect world, you would have planned for everything that could go wrong; the reality is that you will encounter challenges that you did not include in your plan – everyone does. This is where your guiding principles help your team meet unexpected challenges in a unified, efficient manner. Expect the unexpected (and manage it). Manage risk through planning, transparency, and flexibility because risks will continually change.

Industry Insights

Evaluate Potential Risks

- Discuss potential risks with the entire project team.
  - What issues could arise that might jeopardize project implementation?
  - What issues could impact consumer confidence; accuracy, security, privacy, health, and value?
  - How should that issue/concern be addressed?
  - What would be the method of response?
  - What would be the company's response?
- Consider the following for each identified risk:
  - What would be the potential impact in terms of cost, time, quality, or reputation if the risk became a reality?
  - How likely is it that the risk will become a reality?
  - Rank by impact and probability – It is useful to document any borderline decisions made here to aid with future reviews, planning, etc.
- Evaluate overall project risk –This value or assessment can then be used to initially assess the project's risk and later to monitor the project's risk.
- Review the results of the risk ranking with the team and project stakeholders who could help confirm or challenge any assumptions and/or conclusions.

Voice of Experience

Duke Energy

"We had a handful of customers who did not want a new meter for various reasons, including radio frequency transmissions and data privacy. While we knew much of what customers were sharing was coming from social media sites, we felt it was important to acknowledge and address their concerns directly. We tapped local experienced engineers who would meet face-to-face with concerned customers to explain and demonstrate how the technology worked, why it was safe, and the associated benefits. While manual and time intensive, this approach allowed us to build relationships with customers while keeping deployment moving."

— Paige Layne,
Communications Manager, Duke Energy

Develop a Risk Mitigation Plan

- Develop a risk mitigation plan for each high impact/high probability risks you identified.
- Consider the following items in your risk mitigation plan:
  - Plan risk avoidance measures.
  - Identify warning signals.
  - Track and monitor the mitigation plan.
  - Estimate the cost of mitigating the risk.
  - Document the risk and mitigation plans.
- Develop messaging that will address potential risks up front in the planning process. The messaging/communications may not need to be used if the risk does not materialize, but if it does, the entire team is prepared and can deliver a consistent message.
- Keep a "risk log" and review it bimonthly with the project team. Include:
  - Description
  - Ownership
  - Date opened
  - Triggers that could cause or increase likeliness
  - Likelihood
  - Impact
  - Trigger level
  - Response plan
- Risk mitigation strategies for AMI deployments include:
  - Consider creating a "postpone" list to keep meter installations going.
  - Organize a SWAT team of field reps to quickly handle meter complaints.
  - Build a tiered support structure to address customer complaints such as an escalated call center desk.
  - Use in-field liaisons during installations to educate customers, answer questions, and address concerns.
  - Test communications with *every* meter at the time of installation.
  - Take pictures of both the old meter and the new meter.

Voice of Experience

Central Maine Power

"AMI deployment touches every customer. How will each aspect of this project affect them? How can we mitigate any cost or inconvenience? What questions will this raise, and how can we be ready with the answers? You need to keep your customers' needs in the forefront in your planning and build flexibility into every stage of execution."

—Sara Burns, President and CEO, Central Maine Power

Tips for Addressing Smart Grid Opposition

- Communicate with customers to provide them with balanced, relevant information to counteract anti smart grid campaigns that will surface.
- Address all customer concerns. Never question the sincerity of customers who express health concerns, or who attribute ailments to smart meters. Do not debate with activists who attribute a wide range of diseases to smart meters. Develop language to help customer service representatives respectfully acknowledge health concerns and stress the utility's commitment to using safe, thoroughly tested equipment.
- Often opponents are highly vocal (especially in the age of social media), but represent a small but vocal minority, so don't get derailed.
- Some communities will trust information provided by independent, third parties, while others will want to have a study preformed that is specific to their own community. Reference multiple sources (especially with respect to radio frequency).

- Appeal to common sense. We are surrounded by wireless technology. Many of those who oppose smart meters do not realize how much RF is already present in their homes and workplaces with wi-fi, cordless phones, cell phones, wireless transmitters, appliances.

Examples

- **Duke Energy** formed a team of engineers (Mark and Don) that made home visits to customers desiring to opt-out of AMI meter installations. The engineers visit the home, measure the meter RF in front of the homeowner, and discuss meter safety. This strategy has been effective in reducing opt-out rates.
- **San Diego Gas & Electric** (SDG&E) put people on a refusal or end-of-the-line list. This allowed the installer to move on to the next customer while SDG&E was still able to address the customer's concerns.
- **SMUD** had 2,500 customers who initially refused meters. For these customers, a designated smart meter advocate and the project manager were sent to speak with each one and listen to his or her specific concerns. Some were appeased by the opt-out policy, while other just wanted to be heard and to be able to speak to a knowledgeable person. Most of those who expressed RF concerns were convinced when the advocate provided on-the-spot RF testing. Those with privacy concerns were reassured when they learned what information was – and was not – being collected. The final count dropped to 339 (or .07 percent) of SMUD's customers.
- **PHI's Delmarva Power** put together a risk communications plan that addressed potential issues that could arise during the smart meter deployment and built those messages into the overall communications plan.

How do you do this?

- Privacy by Design
- Applying Privacy by Design at San Diego Gas & Electric
- NIST Guidelines for Smart Grid Cyber Security

Think Through Opt Out

While not ideal for overall systems, opt-out programs are sometimes important to meet diverse customer expectations. When developing your program, communicate and coordinate your opt-out program in conjunction with the customer engagement programs to ensure that customers understand the benefits of the new technology, have accurate information, and know about that which they are opting out. Strong customer engagement programs help minimize opt-out rates. High opt out numbers could jeopardize the overall system benefits of the technology for all customers. Whether you decide to—or are required to—include an opt-out plan, you will need to give it careful thought and get regulatory buy-in up front.

Industry Insights

Some Guiding Questions:

- How will the program be offered and promoted? Will you actively communicate it to all customers or only those who ask?
- What will be the messages surrounding the opt-out plan? How will it be positioned?
- What media considerations are there? Involving your media or public relations department (or person) would be helpful in evaluating this aspect.

If Opt Out is Mandated

Follow the guidelines established by the commission or governing body. When communicating the program to consumers, be transparent and make the information easily available, but carefully consider to what extent you want to "market" an opt-out message. Many utilities have seen very low requests by customers to opt-out when that option was not promoted beyond what is required by the commission.

- After the initial deployment, how will opt-out be communicated to new customers?
- When developing your opt-out program, what are the cost implications for maintaining separate systems while meeting your customers' needs?
- What type of tracking system will you need?
- How will you stock and keep on-hand the different meter options?
- Will your opt-out program be a continual offering or will it be a program to help you reach the final completion stage of the project?
- What operational impacts will the program create and how will they be addressed or handled?

Voice of Experience

Tips for Managing Opposition

"Don't allow lies to linger unchallenged. Move quickly to respond with facts that can be backed up with documentation. Do your own reporting. When a local blogger confidently reported that "900 fires and 60 deaths" had been attributed to smart meters, I called the National Fire Protection Association in Massachusetts, talked to their head researcher and debunked that claim, putting the information on the blogger's page, on our Facebook page and Twitter. We never heard anything more about fires."

—Jim Kelly, Communications Manager, Kauai Island Utility Cooperative

Examples

- In order to be responsive to customer concerns, the **City of Fort Collins** decided early on in their AMI deployment to offer options for their customers. The "standard install," Option 1, is what they call the normal AMI metering service. If a customer expressed concern with regard to the AMI meter, the City of Fort Collins would speak with the customer in as much detail as needed to try and address their concerns and to explain the technology. If the customer continued to have concerns, the utility would offer the customer two options – not an opt-out, but options. "Option 2", for those concerned with privacy, was to have an AMI meter reprogramed to collect one data point a day for electric use and two data points a day for water use. "Option 3" was to install a solid state meter that recorded no interval data, had no radio broadcast capability and required manual reading. This option included a small fee of $11/month for the manual read. The City of Fort Collins has installed 95,000 of their 100,000 electric meters and water modules. Approximately 0.5% of customers have chosen a nonstandard install.
- **Southern California Edison** (SCE) used a proactive and collaborative approach to develop and manage the opt-out program. Efforts were led by a cross-functional team that was committed to implementing the program quickly and resolving customer issues before they could escalate. By offering customers the ability to add their names to the smart meter delay/opt-out interest list before the opt-out program was authorized by the California Public Utilities Commission, SCE was able to minimize the number of customer complaints and ensure that concerned customers were informed of the program details once it was available. A proactive communications and public relations approach included posting opt-out information online, issuing a press release, attending and presenting at community events, and providing customer-facing employees and executives key information about smart meters. In order to complete deployment efforts, customers who refused SCE access to install a smart meter were communicated with and subsequently defaulted to the opt-out program.
- **Kauai Island Utility Cooperative** created a no-hassle, no-questions-asked opt-out program that relied on the simple tagline, "If you don't want one, you don't have to have one." Opt-out forms were placed online and in a prominent location in the cooperative's lobby. Customers were mailed the forms on request. The forms made clear that customers would be missing out on the benefits of the smart meter and also cautioned that while the opt-out was free now, it was likely a charge would be coming. The forms also gave customers the option of getting a follow-up call if they had questions. Once their questions were answered, more than half of those who asked for a call-back chose to get the meter. By treating opt-out customers respectfully and courteously, the cooperative engendered goodwill among those who suspected the utility was not sincere in its promise not to install meters where they were not wanted.

Enhance the Customer Experience

The introduction of smart grid technology has pushed utilities to think beyond just keeping the lights on for their customers. Along with the technology comes the opportunity to offer new products and services that change the way customers interact with their power company. Providing tangible, visible, and direct benefits to consumers is key to realizing the operational efficiencies that are dependent upon customer behavior changes.

- The speed by which the customer experience can be designed and implemented is increased with a strong crosscutting project management structure, which breaks down barriers of the silo structure that is common to utilities.
- Consumer expectations have changed through consumers experiences with the web and smart phones. Other industries such as telecom, television, and home security are changing customer expectations with regard to choices, data access, and personalization.

Industry Insights

- Consider how and with what frequency customers want to be contacted. Some customers want high contact while others want low contact.
- Use every touch point as an opportunity to build trust with the customer. Even if it starts as a complaint it can become an opportunity to educate.
- Address customer concerns proactively, openly, and transparently.
- Receive, respond to, and incorporate consumer feedback.
- Design creative ways of providing customers notification and feedback.
- Focus on quality every step of the way. Handle each complaint at the highest level of project management.
- Call customers and ask about their experience with the technology/equipment.
- For AMI installations, perform high/low bill checks. An inaccurate high bill can create a negative customer experience. If the customer receiving the bill is highly vocal, this mistake can lead to backlash against the project. And, schedule meter installation so it does not correspond to high bill times.

Voice of Experience

Enhancing the Customer Experience

"We want to adopt the best mix of advanced technologies to meet our customers' energy goals—whether that's helping them to get more value for their electricity dollar, or more productivity from their businesses. Ultimately, what customers demand will drive innovation and change."

—Karen Lefkowitz, Vice President, Business Transformation, Pepco Holdings, Inc.

Examples

- **Georgia Power** is using its AMI technology to offer people a choice of rates based on their preferences and lifestyles. On Georgia Power's Save Money and Energy website, the utility offers an interactive rate advisor tool with sliders so people, adjust their personal priorities and find the plan that best suits them.
- Customer-centered experience design was the foundation for **San Diego Gas & Electric** (SDG&E) deployment and led to the creation of the 90-60-30 day strategy. SDG&E conducted co-design panels to generate customer requirements and experience design prototypes, which defined the key elements of the customer experience.
- **NV Energy** enhanced the template for customer experience design by adding components for addressing consumer confidence. See the NV Energy AMI Project Implementation Handbook.
- **ComEd** used customer-centered experience design methods as the foundation for the remainder of the Customer Applications Program, which included assessing customer engagement with five types of rates, four types of enabling technology, payment for enabling technology, and bill protection.
- Utilities such as **SMUD, SRP, SDG&E, BGE, and ComEd** have demonstrated that one-on-one interactions (in person, on the phone, or online) where utility personnel and other educated resources have the opportunity to speak directly with

worried consumers allows them to overcome their concerns and fears. For those who cannot be reassured, these encounters provide important input for the utility and confirm that the utility is actively listening to the customer.

- **Southern California Edison** (SCE), embraced customer experience design principles by providing customers with helpful energy management tools such as: Budget Assistant, a free and easy-to-use tool that can be used to set monthly energy spending goals, track progress, and receive automated alerts. SCE also provided hourly interval usage data, up to 36 months of historical usage data, current tier price, current tier position, and projected tier price and position at the end of the billing cycle.

How do you do that?

- Honebein, P. C. and Cammarano, R.F. (2008). Crafting a Persuasive Smart Meter Customer Experience. Metering International, January (1), 102-105.
- Honebein, P.C. (2010). We Got a New Digital Meter. Our Usage Went Up 123%. Our Bill Went Up 65%. The Electricity Journal, 23(2), 76-82.
- Honebein, P.C., Cammarano, R.F, and Boice, C. (2011). Building a Social Roadmap for the Smart Grid. The Electricity Journal, 24(4), 78-85.

Outsource IT Services

In addition to the smart grid technology deployed on the distribution system, there is information technology specifically for customer engagement. These include all devices and software used by consumers to control – or at least know about – their electric power usage. For some utilities, developing and maintaining these IT products and services in house is preferred; however, many utilities outsource their customer engagement IT services. Whether you use in-house resources or outsource all or some of your IT services, the Smart Grid changes the role of IT from an enabler to strategic partner in developing new products and services. Collaborate with IT from the start of your project.

Here are some things to consider:

- Fast Deployment – Building new applications using in-house IT resources can take several years, with many projects estimated in the 18-24 month range due to the need to define requirements, assemble a team with appropriate skills, develop custom software, and integrate systems. With managed services, utilities can get turnkey applications that can be deployed in a few months.
- Future Proofing – By leveraging managed services, utilities get ongoing maintenance, support, and enhancements. As compared to an in-house approach, this reduces the risk associated with technology obsolescence. This is particularly critical given the rapid changes and advancement in data analytics and customer engagement channels such as mobile and in-home device connectivity.
- Cost Effectiveness (upfront and ongoing) – When compared to building software and business processes in house, utilities avoid significant upfront costs by choosing a managed services provider. These providers offer a recurring fee with a nominal setup charge. In addition, vendors have greater economies of scale for data infrastructure and software development, which can enable lower prices and lower total cost of ownership for utilities. These savings are most pronounced for smaller utilities.

What is a managed services provider?

With managed services, vendors build, maintain and operate applications in secure data centers on behalf of clients, making applications available directly over the Internet with strict adherence to all data security and privacy standards. Instead of paying upfront, clients typically pay a recurring service fee that includes future enhancements. In addition to providing software applications, vendors may take on key business processes including program design, customer feedback assessment, call center support and marketing.

- Obtain specialized skills without additional resources – If a solution provider provides both operational assistance and technology assistance, a utility can deploy customer engagement without additional in-house resources. This can be especially critical for municipal or rural utilities that might find it difficult to recruit and retain talent.
- Potential conflicts with your current customer facing applications – Ensure that customers using multiple platforms for accessing their energy use data and communications will receive consistent language, branding, and data.

When evaluating a managed services model:

- Ensure that you consider operational aspects and not just software and technology. For example, many consumer engagement efforts require some level of additional marketing, customer feedback monitoring, call center support and ongoing optimization. While evaluating providers, consider whether they offer these capabilities.
- Follow established standards when it comes to key integration points with the AMI, CIS, MDM and other systems in which you have already invested.
- Give preference to firms that know the utility industry well. Utility experience is essential to understand all the intricacies of customer engagement when it comes to energy usage and to working within the regulatory environment.
- Ensure that your managed services provider has invested in security and privacy measures – ideally audited by third parties with established certifications (e.g., SOC 2, SSAE 16).

Examples

- At Central Maine Power, the AMI Project was co-lead by the IT and business units.
- When **Westar Energy** initiated a smart grid project, including the deployment of smart metering, IT was involved in the planning from the beginning. A project manager was assigned from IT and the CIO was one of the executives on the steering committee. One initial objective was to identify what products and services would be offered to customers. IT brought rigorous project management to the table and had experience with issuing RFPs and selecting vendors. In this project, vendors ranged from AMI, MDM, software integration, meter install, and to distribution automation. IT infrastructure was a major challenge because it was not obvious at the beginning to the business side of the magnitude of the IT work effort to support a consumer portal. The goal was to provide benefits to customers shortly after their smart meter; as a result of using this approach, only 25 customers of Westar's 43,000 customers in the first geographic area of meter installs declined the smart meter.

Getting Approval Part of the Process

Wouldn't it be nice if… getting approval was just a rubber stamp? The reality is that getting regulatory or board approval for your customer engagement budget and plan can be a lengthy process with many stops and starts and challenges along the way. Embrace the process. If you keep your eye on your goal of providing the best service for your customers, you will end up with a customer engagement plan that delivers.

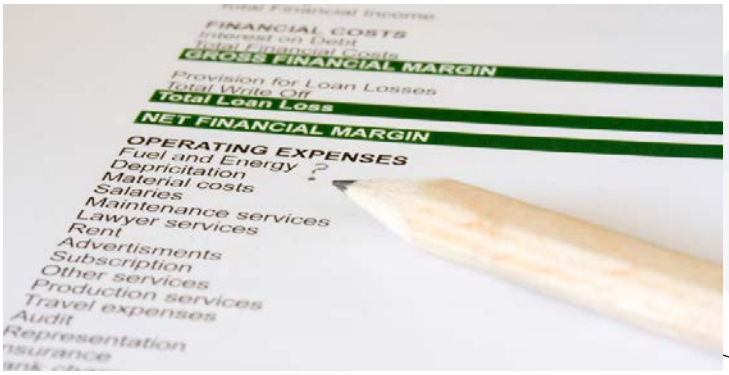
Develop a Budget

There is certainly no-one-size-fits-all approach for developing a budget. In this section, we focus on factors that will influence your budget, including variables that you might not normally consider in you budget planning. It is important to consider customer engagement activities as a critical component of the overall smart grid project budget and include these costs early in the budget planning process.

- Approaches to customer engagement activities will vary depending on the utility's current operating environment, size, and relationship with the community.
- A wide range of variables can influence an individual utility's approach and the resources required to implement them.
- A budget that fails to account for all of the variables won't reflect the true requirement. An under-funded project means customer needs may go unmet, or you experience cost over-runs–a hot button for public criticism that could jeopardize the project.
- A poorly prepared approach and budget that do not demonstrate evidence-based value can cause the governing body to cut budget and/or scope, jeopardizing your ability to achieve the program goals.
- Be aware that you may need additional time to develop your budget if an RFP process is required for certain line items.

Industry Insights

- Align the resources designated for customer engagement and education with an approach that demonstrate value and can withstand the rigors of cross-examination.
- Include funding for comprehensive information gathering, personalized exchange with customers, and proactive education – tactics that go beyond traditional utility marketing tactics such as:



Variables to Consider in Your Budget

- Utility type and business model
- Number of customers
- Customer demographics and segments
- Location and breadth of service area
- Objectives and business case for the deployment/cost recovery strategy
- Scope and complexity of the deployment
- Technologies being deployed
- Risks associated with project
- Utility's experience in managing similar projects
- Staffing costs/changes associated with the project
- Regulatory environment and political influences
- Customer touch points within the organization
- Utility's reputation with its customers and existing level of customer satisfaction and trust
- Existing systems and processes that affect the customer experience
- Existing customer communication channels
- Impact of other utilities recent experience with similar projects
- Staffing costs for increased communications
- Product marketing
- Insourcing versus outsourcing
- Resources needed to monitor and address customer concerns
- Costs for website development and a maintenance program that is nimble and fluid

  - Developing an educational display and presentation material
  - Website development and management
  - Social media channels
  - Curriculum development
  - Mobile apps and online tools.
- Interview decision makers in other departments or business units to ensure that you understand other initiatives that could have an impact on your resource planning, (e.g., changes to IT systems that will impact the customer experience).
- Ask for what you need; include factors considered necessary for customer engagement activities – not just what you think may be approved.
- Work collaboratively with regulatory/legal staff early in the process to determine the type and rigor of content needed to ensure your budget is defensible.
- Consider unexpected events and delays and include contingency funding.
- Include the ability to shift funds from one tactic to a different, more effective tactic if needed.

Examples of Costs Associated with Public Outreach

- Number of public meetings to be held
  - Location – cost of renting facilities
  - Refreshments if they will be offered
  - Meals, travel, and lodging for team for each meeting
  - Number of project team members to attend
- Call center response planning
  - Materials and training
  - Agreement on which budget will include the cost
- "SWAT team" for responding to escalating issues quickly
  - Cost to train
  - Estimated number of "deployments"
  - Cost per response
- Regulatory stakeholder updates
  - Number of updates
  - Prep time per update

What tactics will you use?

For what purpose? How often? When? Cost?

- **Print advertising in local newspapers, newsletters, and magazines during implementation process.**
- **Letters to customers**
- **Bill inserts before, during, and after meter installation.**
- **Brochures**
- **Door hangers**
- **Postcards**
- **Postage**
- **Billboards**
- **Monthly newsletter before, during, and after project.**
- **Local radio and television ads, appearances, interviews**
- **Open houses and demonstrations at utility office, community center, local retailers**
- **Website information/promotion**
- **Video production**
- **In-theater advertising**
- **Signage for office lobbies, displays, banners**
- **Promotional giveaways**
- **Social media**

Examples:

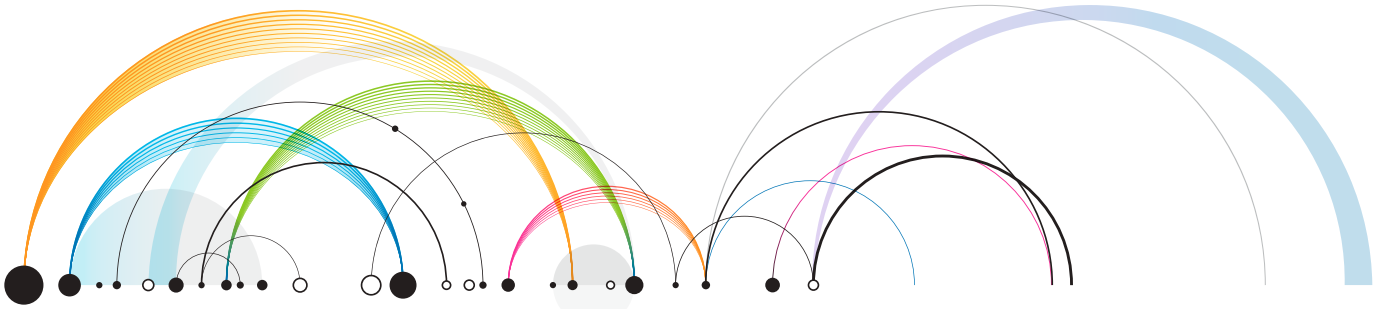
- **ComEd's** regulatory filing for its Smart Grid Advanced Metering Infrastructure Deployment included a plan and exhibits related to the approach and resources required for customer-facing elements of the project.
- **Duquesne Light Company's** regulatory filing was led by its Final Smart Meter Technology Procurement and Installation Plan. A chapter in this plan focused on Customer Education and Acceptance Strategy, which outlined Duquesne's approach for customer side of its smart meter program. In addition to the approach, Duquesne Light included an overall budget for the customer strategy.
- **Florida Power & Light Company's** (FPL) deployment called for 4.6 million smart meter installations across a 35-county service territory over a span of about four years. The utility's core customer engagement strategy was biased toward communicating with customers and other key stakeholders as installations and activations occurred in their areas. This meant needing to budget for targeted communication channels and tactics vs. relying on broad communication channels. In benchmarking with other utilities, FPL paid close attention to the experiences of other investor-owned utilities with large service areas, large numbers of customers, and multi-year deployments.
- About half-way through the **South Alabama Electric Co-op's** (SAEC) AMI meter deployment, members began to complain – not about what the meters might or might not be able to do – but the fact that many of the members could not figure out which set of numbers to read to determine usage. SAEC realized they would need to adapt their plan and budget to address the concern. Therefore, SAEC made adjustments and created a new office display that they located in the lobby. In addition, a bill insert was created and a similar piece ran in the member magazine. The information was also placed on their website in the AMI section. Every member received the stuffer with the letter and brochure in their bills at least twice as well.

Prepare the Business Case [for Regulators and Boards]

In the utility industry, preparing a business case—or rate case—is usually associated with investor owned utilities (IOUs), but the same principles can be applied to municipal and cooperative utilities that are required to present a business case for customer engagement to their board of directors, city council, or other decision makers. So while this section speaks generally to IOUs and the issues they are likely to encounter when developing a rate case for their public utility commission, persuading decision makers to keep customer engagement in the budget is the end goal and applicable to all utility types.

Industry Insights

- Research the specific rules in the states in which your organization operates and make sure you understand the legal limitations around working with commissioners and PUC staff.
- Make sure the customer engagement budget is thoughtful and thorough.
- Benchmark your budget with peers and explain the logic behind the numbers.
- Develop a defensible budget. Make the point that without a comprehensive, well-timed and appropriately funded education plan, the potential for misinformation to overtake the message is great. Informed customers are more likely to adopt the technology and accept increased costs if they understand the benefits and need for it.



- When presenting your customer engagement plan and budget to your regulator
  - Develop a goal statement that clearly defines what the utility intends to accomplish with their deployment and their customer engagement effort. Stakeholders must understand that a successful education program requires resources. However, accurate budget numbers can only be done after an education mission statement is defined and customer segments and communication channels are identified.
  - Provide a value proposition for the customer after the goal statement, in plain English, to identify how the smart grid will benefit customers in their daily lives.
  - Identify the stages of deployment and synchronize the appropriate customer engagement activities with each stage of deployment. Synchronized customer engagement should result in specific education topics for each stage of deployment.
  - Identify the preferred communication methods for customer segments. Examples may include: door hangers, media coverage, videos, email, texts, focus groups, customer feedback loops. Customer education messages may need to be delivered multiple times using multiple methods to ensure customer understanding.
  - Create a matrix of customer education topics and associated messages, customer segmentation groups, and preferred communication media for each message.
  - Develop costs associated with each message (for each identified segment) throughout program deployment.
  - Provide a detailed schedule of activities and milestones.
  - Build in flexibility for inevitable changes.

TIP

Marketing and regulatory teams – Work collaboratively from the start to develop an effective plan and budget that can be approved by regulators.

Examples:

- **Baltimore Gas and Electric** (BGE) BGE Smart Meter Customer Education And Communication Plan, Baltimore Gas And Electric Company Implementation - Phase 4
- **Pepco** Customer Education Plan

Engaging Your Customers

The New Normal

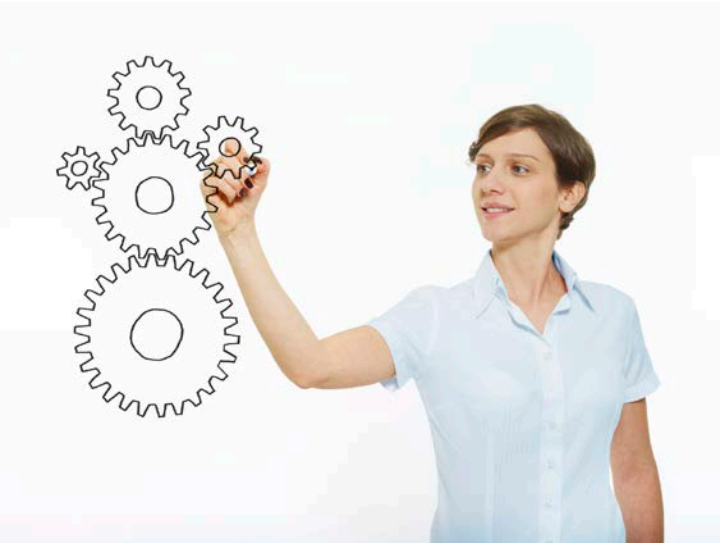
Customer engagement sounds like a project with a start and finish; one that you get approved, complete, and then get back to the business of providing electric power to your customers. The reality is that customer engagement doesn't have an end. It is more of a culture, a way of doing business where your customers are at the center and have choices (even if their choice is to not engage). It requires the utility to continually listen, educate, interact, and provide access to meaningful information that enables those choices. And it's the new normal.

Get Continual Feedback

Are you achieving your program goals? Are your products and services meeting your customers' needs? Ongoing testing and assessment will help you determine whether the strategy and messages you are using are effective—or if they need to be updated—and if your products and services are hitting the mark. As your smart grid deployment progresses and changes, so will your customers' perceptions and needs. Your messages, products and services will continue to evolve as you receive feedback and make adjustments to meet customers' changing needs and perceptions. Customer feedback is critical to developing smart-grid enabled products and services that meet customer needs. Measure your customers' satisfaction, continuously.

Industry Insights

- Create feedback-loops that provide regular, useful information that you can use to improve your program.
- Use both in-depth interviews as well as focus groups for measuring consumer experiences. Each method has strengths and weaknesses, but together they can help provide insight into your customers.
- Quantitative surveys are also helpful for understanding broad consumer perception and engagement with the program and utility.
- Combining in-depth interviews and customer surveys will help to identify areas of needed improvement.
- Revisit your budget and schedule on a regular basis and make adjustments when needed.



Examples:

- **San Diego Gas & Electric** conducts two customer satisfaction surveys per year.
- Leading up to its deployment, and through the first two years, **Florida Power & Light Company** (FPL) conducted several focus groups and quantitative surveys to understand customer preferences and test the effectiveness of its messages. For the duration of the deployment, questions on smart grid were included in the utility's monthly satisfaction surveys.
- **SRP** conducted individual in-depth interviews to evaluate individuals' experiences with program components.
- **Southern California Edison** (SCE) conducted monthly customer experience satisfaction surveys for the first 18 months of deployment, and also tested all communications for effectiveness.

Voice of Experience

Engaging the Customer

"Consider the voice of the customer when developing new smart-grid enabled products and services. Customer feedback can help you refine your product offering to ensure you are meeting customer needs and expectations."

—Angela Nichols,
Director of Marketing, OG&E

Use Your Data

Smart grid technology provides utilities and customers with a lot of data—big data. Utilities that have experience collecting and analyzing their data are using it to create products and services that customers not only want, but have come to expect, and are finding that it provides possibilities that utilities are only now beginning to imagine. These utilities are using this data to create programs and tools that help their customers manage their energy usage – based on the customers' preferences—if they want it.

Industry Insights

- Analyze your data along with customer wants and needs to develop your products and services. Recognize there are different segments of customers that will value different products and services. As an example, one segment will review their personal energy insights and make behavioral changes. Another will not engage or study their energy usage but will be interested in set-n-forget solutions such as learning/smart thermostats or whole home energy management solutions. Develop products and services that meet the needs of your different segments.
- Combine various data sets (such as usage and current rate plans) with external data for demographics and behaviors to help target programs to specific customers.
- Repackage interval data around tools and programs for specific segments of your customers.
- Offer personalized energy usage reports
- Use meter data to provide improved outage maps and then communicate that information to your customers through text messages, Twitter, etc. This is when customers want to engage with their utility – use it as a method to start communications.
- Give customers data in terms they understand. They may not know what a kWh is, but they can understand "the amount of electricity 100 hundred homes use each hour." And realize that we in the industry are too close to the details of energy management. Most people don't understand kWh the way they understand MPG.

Types of programs available with interval data:

- Innovative Rate Plans
  - Time-of-Use Rate Plans (Critical Peak Pricing , Multi-tiered pricing plans, Free or Discounted Nights and/or Weekends plans),
  - Prepayment Plans,
  - Peak Time Rebate or other demand response benefit constructs that incent consumers to save or shift usage.

- Energy Insights Services
  - Energy usage/cost graphs (hourly/daily/weekly) that show consumers when they are using and what it is costing them,
  - Peer Comparisons that show consumer how their home usage compares to similar homes in their area,
  - Home Usage Disaggregation that show consumers what in their home is using energy,
  - Predicted Bill Amounts that show consumers what their bill is expected to be based on their usage to date,
  - Customer Configured Alerts that allow consumer to establish usage or budget limits and receive text/email notifications, and
  - Personalized Recommendations that identify improvement opportunities unique to the home by analytics of each home usages
- Home Energy Management Solutions
  - Smart, Learning, and/or Remote Controllable Thermostats such as NEST or EcoFactor,
  - Home automation systems such as IRIS or SmartThings, and
  - Smart appliances that respond to price signals.

Using data to design new rate plans:

- Use customer data to give recommendations on the pricing plan(s) that may save the customer money.
- Begin with smaller pricing spreads to incent adoption and to help customers become familiar with the program. After an adoption period, consider increasing the spread allowing consumer to realize greater benefits.
- Carefully consider pricing tiers of time-of-use plans. Wide spreads between peak time prices and standard rates that may reflect actual energy costs can be confusing to customers who do not understand when they use energy. This confusion – and even fear of the program—can lead to low adoption rates.
- Create no-regrets offers where consumers shifting to a TOU plan will not pay more than what they would pay on a standard plan.
- Successful roll-out of new, dynamic rate plans like Time-of-Use (TOU) or Peak Time Rebates (PTR) requires significant customer engagement so that customers understand new rate structures and participate in peak-time events.
- Education over a period of time about energy management tools that smart meters enable can help set the foundation for a successful rollout of a Dynamic Pricing program to the pilot population. Lessons learned from the pilot can inform large scale rollout.

Voice of Experience

Customer Choices

"Nothing will be more impactful to consumer engagement, than providing your customers energy insights, choices, and control through new smart-grid enabled products and services. We worked with customers early to understand their needs and then developed, launched, and marketed new rate plans and energy management services while the smart grid infrastructure was being rolled out. We learned to monitor, listen, and improve those products and services over time as consumer engagement & interest evolved. Today, over half of our customers have chosen at least one of the smart grid enabled products and services that weren't possible before the smart grid."

— Bill Harmon,
Reliant Energy

Peak Time Rebate Segmentation Example

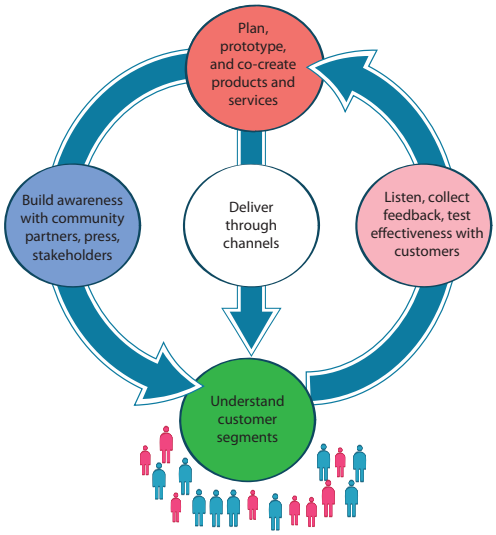
Segment	Awareness	Critical Interest	Specialized Channels
Green	HIGH Voluntary load shift possible with info and simple feedback devices	Protecting environment, lowering carbon footprint	Local environmental non-profits, energy audit and weatherization consultants, green events This is a key target to become smart energy champions themselves
Control	HIGH Early adopter of tools that take advantage of up to minute feedback	Actively managing usage is a game as well as environmentally sound idea	Web portals
Bargain	MODERATE Worried if smart grid will add cost	Keeping costs down	Energy audit and weatherization non-profits and service providers, home shows
Comfort	LOW, not likely to be early players	Easy, not having to pay attention	Purveyors of automated solutions, smart appliance makers, high touch service companies
Privacy	LOW, not likely to be early players	Keeping personal data out of utility hands	Radio shows and town meetings, do-it-yourself home improvement retailers and shows

Examples

- **APS** developed segments for every residential household using Prism and usage data and then created a model that allowed them to calculate the likelihood that the household would adopt or participate in different programs. This allows APS to understand their customers' preferences and better target their marketing resources.
- **BGE** partnered with Opower to roll out Peak Time Rebate (PTR) to 1.1M residential customers. Ongoing communication with customers include: online reinforcement (consistent with outbound channels), multi-channel outreach (reach customers where they are), normative comparison (more durable than rebates alone), pre-event notification (build awareness ahead of peak events) and post-event summary (feedback on $ and kWh saved).
- For **DTE Energy's** SmartCurrents pilot, the utility customized the Play-Learn-Win engagement and education program to instill critical learning around rates, peak time saving, and energy efficiency actions. Play-Learn-Win has incentivized daily customer interactivity across multiple media, including mailers, email, mobile and computer apps, SMS, Interactive voice, and a playable deck of cards visualizing individual learning elements.
- **NV Energy** realized that some customers did not have the knowledge, tools, and attributes to engage with their utility successfully. To identify and educate these customers, NV Energy teamed with Vergence Entertainment to develop an online and mobile basic energy curriculum that is being used in a pilot project involving 3000 customers.

Offer New Products and Services

From mobile apps to gaming tools that allow customers to compare their energy usage to their neighbors, utilities are developing new, creative products and tools to enhance their services and meet their operational goals. Even small utilities can offer their customers choices—there are many vendors that have developed smart grid enabled products and services that can be integrated and offered through the utility. Plus, offering products and services that deliver consumer benefits such as convenience, insights, and opportunities to save energy and money is how you transition your utility from being the energy provider to being *the* energy advisor.



A customer-centric design lifecycle developed by To the Point

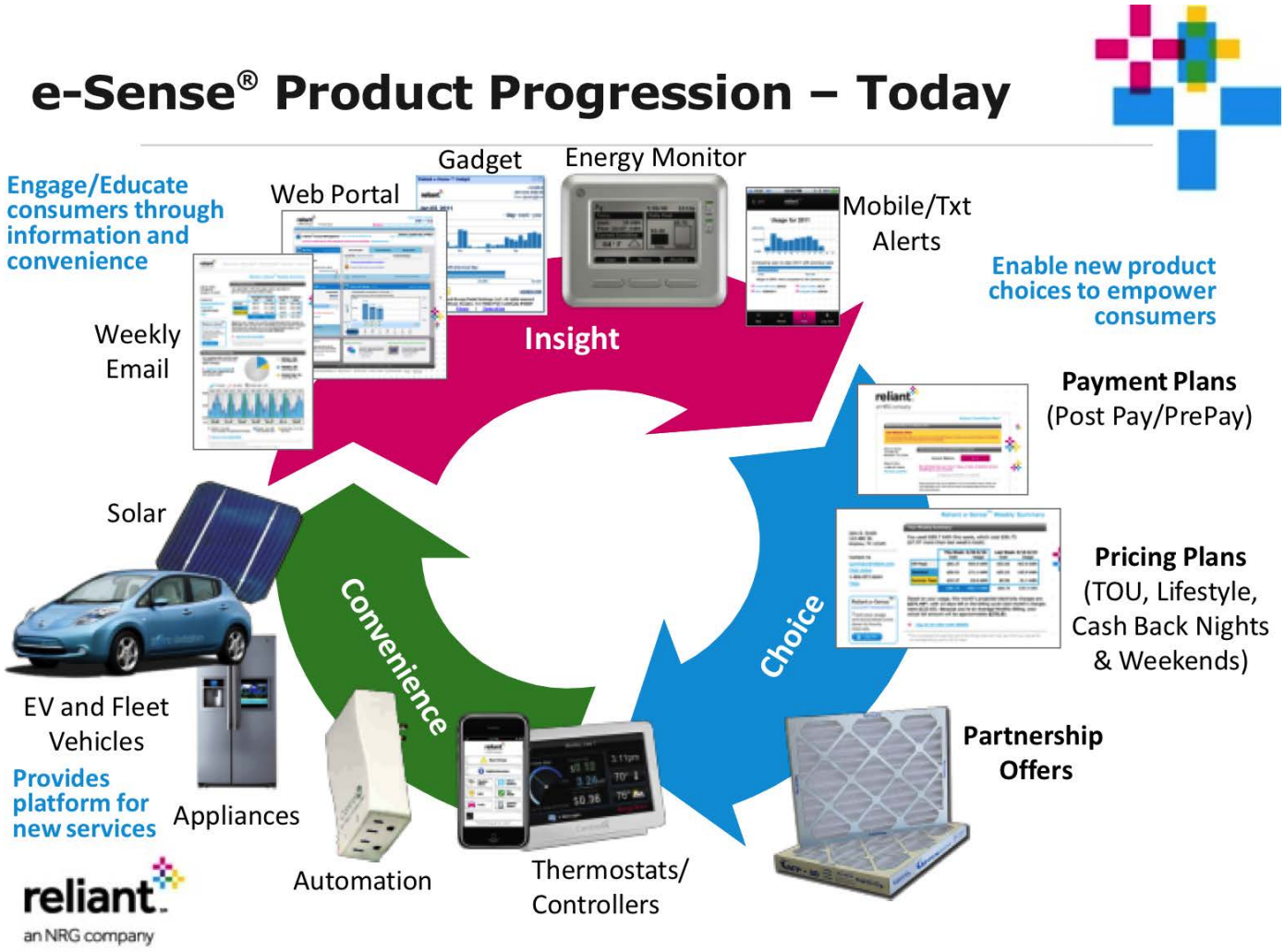
Industry Insights

- Utilities deploying AMI have reported they would have thought about post-AMI sooner.
- Use the pilot, test, modify, and repeat method to test new messages, products and services.
- Leave enough time in your roll out schedule to do several pilot projects if necessary to get it right.
- Use your tools to connect to and educate your customers. Demonstrating an outage app and then saying "this has been enabled by smart meters" helps educate customers on the technology.
- Keep your stakeholders (i.e.; community-based organizations) engaged and educated on new products and services so they can help you spread the word.
- Follow a disciplined approach with reviews and input from customers. Before introducing a product to your customers, try it out on employees or "customer friendlies"
- Marketing products is a dynamic process that requires constant monitoring, tweaking, and re-execution. Be flexible. Your marketing plan and approach may have to change once you start marketing your products and services.
- Work with partners /vendors to bring products/services to life.

Examples:

- **OG&E** has rolled out multiple smart-grid enabled products and services to customers, including *myOGEpower*, an online energy management tool and *SmartHours*, a variable peak pricing program coupled with a *SmartTemp* programmable communicating thermostat.
- To develop messages for their SmartView pilot project, **Entergy New Orleans** held two customer focus groups structured as one-on-one interviews to determine customer acceptance of the solicitation letter, screening process, application, marketing materials and approach. The first session was conducted in September 2010. The information was then modified based on customer feedback and a second session took place in October to re-evaluate the messages.
- **San Diego Gas & Electric** (SDG&E) wanted to develop a product or service that would leverage their Reduce Your Use (RYU) Peak Time Rebate program so that customers were motivated to conserve energy every day, but especially on peak days. SDG&E partnered with Simple Energy to engage a select a pool of customers in the *San Diego Energy Challenge* through the use of a third party software solution. The Customer Engagement Platform delivered social and community-based game mechanics to encourage customer engagement and energy saving.
- **Pepco's** consistent and early education with its Take Control campaign coupled with education about energy management tools that smart meters enable help set the foundation for a successful rollout of a Dynamic Pricing program to phase-in population. Lessons learned from the phase-in will inform large scale rollout in the following year.
- Over half of **Reliant Energy's** customers have chosen at least one of the smart grid enabled products and services they offer through their e-Sense® Smart Energy Solutions program. See Reliant's E-Sense® product videos and Innovation Avenue testimonials on YouTube.

Reliant Framework for Smart Grid Enabled Products & Services



Voice of Experience

New Engagement Opportunities

"We took a novel approach by offering a community prize competition for saving energy called the San Diego Energy Challenge. Customers could win individual prizes like gift cards and tablet computers and help win money for local schools by saving energy that was verified by their smart meter data. The program was developed in partnership with Simple Energy and was supported by a DOE Smart Grid Data Access Grant. We created a whole new customer experience and a new way to harness energy data to help better serve our customers as members of the community. We had approximately 40 local middle schools and 50,000 customers competing for prizes and recognition. Smart meter data and digital media are providing us new ways to enhance our relationship with our customers."

— Ted Reguly,
San Diego Gas & Electric

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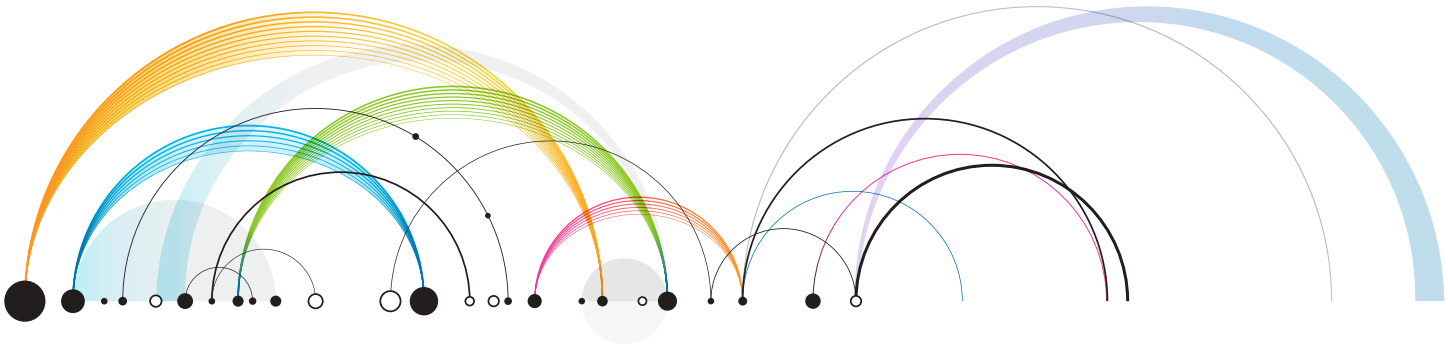

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The Federal Smart Grid Task Force is an interagency task force that was established under Title XIII of the Energy Independence and Security Act of 2007 (EISA). It is led by the Department of Energy, Office of Electricity Delivery and Energy Reliability and is directed by Eric Lightner. Its mission is to ensure awareness, coordination, and integration of the diverse activities across Federal agencies related to smart grid technologies, practices, and services.

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