



Case Study:  
Pacific Gas & Electric Company (PG&E) SmartRate™

*Product Design Converges on Customer Experience*

September 2013

## Table of Contents

|  |           |
|--|-----------|
| <b>Background</b> .....  | <b>3</b>  |
| <b>ADS Case Studies</b> .....  | <b>3</b>  |
| Audience .....   | 3         |
| Approach.....  | 3         |
| Structure and Uses .....   | 3         |
| <b>Purpose of This Case Study</b> .....                                | <b>4</b>  |
| <b>Reasons for Choosing SmartRate™ for a Case Study</b> .....          | <b>4</b>  |
| Interviewees .....   | 4         |
| <b>Pacific Gas &amp; Electric (PG&amp;E) SmartRate™</b> .....          | <b>5</b>  |
| <b>Converging Rate Product Design Around Customer Experience</b> ..... | <b>5</b>  |
| Background on SmartRate™ .....   | 5         |
| <b>Top lessons learned by PG&amp;E:</b> .....                          | <b>6</b>  |
| <b>1   START WITH SEGMENTATION</b> .....                               | <b>6</b>  |
| Understanding the country’s most diverse utility customer base .....   | 6         |
| Zeroing in on the best candidates for SmartRate™ .....                 | 7         |
| Market potential: setting realistic acquisition goals .....            | 7         |
| <b>2   FOCUS ON CUSTOMER SATISFACTION</b> .....                        | <b>8</b>  |
| Starting with the familiar and building from there .....               | 8         |
| Creating easy paths to participation .....                             | 9         |
| Changing the nature of utility contact center support .....            | 9         |
| Retaining customers is as important as gaining customers .....         | 10        |
| Walking in the customer’s shoes.....                                   | 10        |
| Coordinating messages .....  | 10        |
| Do what you say you’ll do .....  | 10        |
| <b>3   CUSTOMER SERVICE ACROSS FUNCTIONS</b> .....                     | <b>11</b> |
| Making sure the product meets customer expectations .....              | 11        |
| Aligning departments within the utility .....                          | 11        |
| Meeting customer expectations at every stage .....                     | 12        |
| Systematic feedback loops .....  | 12        |
| <b>4   SMART METER DATA USED APPROPRIATELY</b> .....                   | <b>13</b> |
| The utility’s evolving role.....                                       | 13        |
| Use facts to inspire trust.....  | 13        |
| Continual engagement .....   | 14        |
| <b>Moving Forward</b> .....  | <b>14</b> |
| <b>Focus on retention</b> .....  | <b>14</b> |
| <b>Operational efficiency</b> .....                                    | <b>14</b> |
| <b>Surprising outcomes: the halo effect</b> .....                      | <b>15</b> |
| Creating demand for adjacent programs .....                            | 15        |
| Successful participation from low-income consumers.....                | 15        |
| <b>Closing Notes</b> .....   | <b>15</b> |
| Observations of the Author .....                                       | 16        |
| Other Pertinent Case Studies.....                                      | 16        |
| Author’s Bio .....   | 17        |

## Background

### ADS Case Studies

The National Action Plan on Demand Response (NAPDR), published by the Federal Energy Regulatory Commission in June 2010, called for the development of case studies that would illustrate “lessons learned.”

The Association for Demand Response and Smart Grid (ADS) produced this, the third case study in a series. Past NAPDR case studies include:

- PowerCentsDC, *A Model for Stakeholder Collaboration*, February 2011
- Salt River Project (SRP), *The Persistence of Consumer Choice*, June 2012

### Audience

The NAPDR called for the development and dissemination of case studies as an action to support demand response practitioners and policymakers. Consumers and the general public are not the intended audience of this paper.

### Approach

In developing its own plan, ADS deliberated over what kind of case study would be most useful to its target audiences of DR practitioners, smart grid technology and service providers, policymakers, and other stakeholders involved in demand response and smart grid activities. We have chosen to interview various stakeholders (e.g. representative customers, consumer and/or environmental advocates, utility staff, regulators, and relevant technology or service providers and analysts) to collect perspectives that would add insight to other published sources, presenting findings in a way that would help others apply the practices to their own situations.

To complement the detailed reports and data analyses common in the industry, we chose a narrative style that allows the individuals involved in the program or project to “tell their story” and state the challenges that presented themselves. We focus on questions:

- How did the key player(s) view the challenges?
- What happened? What processes were used to meet the challenges?
- What were the reactions and perspectives of different stakeholders?
- What worked, what didn’t work, what problems had to be overcome, what’s next?

### Structure and Uses

Discussion questions are embedded in the narrative to stimulate further thought and application on the part of the reader. For readers who want to delve deeper into background material, including quantitative evaluations and load impacts supported by the practices discussed in interviews, a list of sources and other pertinent reports is provided at the end of each case study.

We hope these case studies will become the subjects of a series of articles, panels at industry conferences, and used in workshops emulating the business school case study process.

This case study was prepared by Sharon Talbott, an independent contractor, on behalf of the National Action Plan on DR as a basis for conversation among stakeholder groups. Funding was provided by the U.S. Department of Energy, Office of Electricity Delivery and Energy Reliability, and the project was managed by the Association of Demand Response and Smart Grid (ADS).

## Purpose of This Case Study

The intent of this study is not to cover ground that other reports have already answered about program performance, but to get a better picture of the internal workings of an organization by telling the practitioners' story.<sup>1</sup> The idea for the study originated in a Panel Session during the 2012 National Town Meeting on Demand Response and Smart Grid that featured a number of Pacific Gas and Electric Company (PG&E) Demand Response Program personnel discussing the utility's Critical Peak Pricing residential rate program, SmartRate™. The session was well received by Town Meeting attendees and there was interest in knowing more.

The chief value of the interviews that follow is to supply other practitioners with a sense of the attitudes and relationships that needed to change in order for PG&E to successfully implement the SmartRate program. Going beyond what a standard process evaluation would cover, PG&E staff discuss the evolution of their organizational culture, their expectations, and their understanding of the value they place on their customers.

## Reasons for Choosing SmartRate™ for a Case Study

PG&E's development and implementation of SmartRate™ lends itself well as a case study subject for the following reasons:

- The utility's high profile SmartMeter program has driven the organization to re-examine operations at every level and in every department.
- The utility learned lessons early on about combating negative perceptions and winning over their customers.
- A key management strategy was to closely monitor customer reaction and stay nimble enough to respond to findings about customer behavior that could inform service improvements.
- By insisting on a high level of coordination within the utility, the program team was able to monitor the quality of customer service at all levels while also staying abreast of changes in regulatory requirements.
- By not treating SmartRate as a short-term experiment and by taking a long-range view of program design, the program was well-resourced for success.

## Interviewees

ADS interviewed the following key members of the product design team and the marketing team behind SmartRate™:

- Susan Norris, Senior Manager, Pricing Products
- Kaitlyn Huynh, Senior Program Marketing Manager
- Nicola Forster, Solutions Marketing Manager



Pacific Gas and Electric Company, a subsidiary of PG&E Corporation <http://www.pge-corp.com/> (NYSE:PCG), is one of the largest combined natural gas and electric utilities in the United States. Based in San Francisco, with 20,000 employees, the company delivers some of the nation's cleanest energy to 15 million people in Northern and Central California.

### Fast Facts:

Service area stretches from Eureka in the north to Bakersfield in the south, and from the Pacific Ocean in the west to the Sierra Nevada in the east.

141,215 circuit miles of electric distribution lines and 18,616 circuit miles of interconnected transmission lines.

42,141 miles of natural gas distribution pipelines and 6,438 miles of transportation pipelines.

5.1 million electric customer accounts.

4.3 million natural gas customer accounts

For more information, visit [www.pge.com](http://www.pge.com)

<sup>1</sup> For a more detailed and quantitative assessment, please refer to the Ex-Post and Ex-Ante Load Impact Reports published by Freeman Sullivan Co. (FSC) in 2010. Sources and links are provided at the end of this document.

## Pacific Gas & Electric (PG&E) SmartRate™

In 2008, PG&E rolled out its residential critical peak pricing program without the fanfare that usually accompanies dynamic rate programs in this industry. This was not a pilot project. Nor was it a tentative attempt at gauging consumer acceptance or testing assumptions about elasticity of demand. It was a fully-fledged residential rate backed up by the utility's commitment to full implementation. That first summer, 8,000 customers enrolled. Five years and 100,000 customers later, PG&E's SmartRate™ program has a firm place among the utility's suite of rate offerings.

The program had to overcome formidable obstacles, both external and internal. Foremost among these were public concerns about smart metering and the utility's own complex management challenges, both brought on by the very smart metering initiative that made SmartRate possible. Viewing those issues as opportunities, the SmartRate program team endeavored to design an offering driven by customer satisfaction, seized the chance to listen thoughtfully to their customers' concerns, and created responsive processes at every level of operations. The pay-off for this approach was that customers did indeed deliver the promised energy savings that make CPP programs attractive.



## Converging Rate Product Design Around Customer Experience

### Background on SmartRate™

When SmartRate first went to market in 2008, an existing static time-of-use (TOU) rate for residential customers had already been serving 80,000 PG&E customers since the 1970s. Customers on the voluntary TOU service subscribed to a different tariff than regular customers on the standard tiered rate plan, and incurred charges for the required interval meters.<sup>2</sup> When the rollout of smart meters gave interval metering capability to all PG&E customers, the utility had an opportunity to design peak pricing options to reach a wider customer base.<sup>3</sup>

SmartRate introduced an evolutionary change in approach by developing a voluntary rider that can sit on top of either of PG&E's residential rate options (standard tiers) or on the time of use (TOU) rate option. It can also sit on either one of the low income versions of those rates. Customers do not have to abandon their familiar rates but can ease into participation in more dynamic rates and demand response.

### Quick overview of the terms of SmartRate:

- Voluntary peak pricing plan for residential customers with smart meters
- Applies from June through September
- In exchange for agreeing to pay a higher rate during peak times, customers pay a discounted energy rate at all other times
- Maximum of 15 peak event days called "SmartDays™" can be billed over a summer

<sup>2</sup> Customers who had already been on a TOU rate before smart meters rolled out continue on those rates now. Other customers may opt into a TOU rate and ongoing daily Time-of-Use (TOU) meter charges no longer apply if the customer has a SmartMeter installed. Refer to PG&E Electric Schedule E-6, ([http://www.pge.com/tariffs/tm2/pdf/ELEC\\_SCHEDS\\_E-6.pdf](http://www.pge.com/tariffs/tm2/pdf/ELEC_SCHEDS_E-6.pdf))

<sup>3</sup> PG&E continues to offer discrete TOU tariffs appropriate for customers with solar photovoltaic (PV) net metering needs ([http://www.pge.com/tariffs/tm2/pdf/ELEC\\_SCHEDS\\_E-7.pdf](http://www.pge.com/tariffs/tm2/pdf/ELEC_SCHEDS_E-7.pdf)) or customers who charge electric vehicles (EVs) ([http://www.pge.com/tariffs/tm2/pdf/ELEC\\_SCHEDS\\_E-9.pdf](http://www.pge.com/tariffs/tm2/pdf/ELEC_SCHEDS_E-9.pdf))

- Higher rates applied on event days only, at peak hours, typically between 2 p.m. and 7 p.m.

More program details are available on the SmartRate Web Page

(<http://www.pge.com/en/myhome/saveenergymoney/energysavingprograms/smartrate/index.page>)

## Top lessons learned by PG&E:

Each of the SmartRate team members reiterated the same driving motivation: put the customer at the hub. PG&E had invested resources in finding multiple ways to pay attention to their customers. The interviewees emphasized the objective of creating a program that works in real circumstances. The top lessons learned here all center on this kind of attention to customer experience.

1. START WITH SEGMENTATION | Success is dependent on customer participation, so make the most of the resources used to acquire and keep customers. Conduct thorough segmentation analysis before the program begins and choose a realistic customer target.
2. FOCUS ON CUSTOMER SATISFACTION | Design both a communication strategy and the rate program itself with a single objective: to create a clear, convenient, relevant customer experience. Even the way customers who don't succeed on the program are treated has an impact on market transformation.
3. CREATE CROSS-FUNCTIONAL DELIVERY TEAMS | Do not release a product until it is clear every functional team can deliver what customers say they want and need. Then create a program team that is responsive to customers all up and down the delivery chain. Every team member, from the IT team to CSRs, should have the potential to positively impact the customer experience.
4. PUT SMART METER DATA TO PROPER USE | The ability to combine the personalized insight of interval data with management tools can create more value for consumers – but only if driven by an intention to better serve customers.

### Discussion Questions:

*Take stock of your current customer profiles and segmentation efforts.*

*Have you identified segments with unique barriers to successful program participation?*

*Do you know which customer profiles are more likely to perform well on various DSM programs you offer?*

*How would you embed a deeper understanding of your customer base into future product design processes?*

## 1 | START WITH SEGMENTATION

Although Critical Peak Pricing was a state-mandated initiative that PG&E would have deployed regardless of customer preferences or reaction, the utility knew that customer acceptance could not be taken for granted. At the time, the utility was wooing customer support in the face of highly visible consumer backlash to smart metering installations, and repairing its reputation for safety after a gas line explosion in San Bruno. Thus, it was important to PG&E for the SmartRate program to result in not just energy savings, but also customer satisfaction right from the start. To pre-empt negative reaction to a new rate program, PG&E wanted to identify and enroll customers who would perform well on the program, and who would also likely benefit from being on the rate.

With a customer base of five million, this was no small task.

### Understanding the country's most diverse utility customer base

PG&E had already used segmentation analysis in other of its marketing efforts with some degree of success, creating messages that resonated with specific consumer profiles. But the utility had to augment its previous segmentation experience in order to assess how customers would perform on the SmartRate.

Susan Norris, Senior Manager of Pricing Products, explained, “If I wanted to just go out and get customers on the program, I could do that. But this program is intended to reduce load, so I also need to get customers who will deliver load on an event day. That becomes a challenge, requiring different segmentation. You still have to take your messaging segments and understand how to talk to them, but then you have to slice your service territory – and our service territory at PG&E runs the gamut. I think the only [climates] we don’t have are arctic and tropical rainforest, and we may even have tropical rainforest!”

“We understand how to message to these different segment groups so that we know when to talk about the environment, air quality or dollars and credits. For example, some customers want to hear about the environmental impact because they’re worried about their kids with asthma. We talk to them about how, if we don’t have to fire up the dirtier peaker plants on peak days, we can help avoid air pollution. ”

Norris’s marketing team extended their analysis to include regional factors. “We have the Central Valley on the east side of the mountains, where it’s hot with air conditioning. Those customers have the best opportunity to deliver load. They also have the greater risk of not performing, because they have to turn on their air conditioner. We also have what we’ll call the ‘benefiters’, on the west side of the mountains, who don’t have air conditioning and who don’t really need to do a lot to benefit on the rate. You have to balance this.”

### **Zeroing in on the best candidates for SmartRate™**

The marketing team was keenly aware that, particularly with a new product like SmartRate, the cost of acquiring customers for the rate would be high. They wanted to ensure that the customers in whom they invested would not only buy into the rate, but also stay on it. PG&E used a “propensity model” to determine which customers would be most successful on the rate.

Kaitlyn Huynh, Senior Program Marketing Manager, was involved from the beginning and remembers: “We looked first at customers who have the ability to reduce their load. Customers like myself are not the most ideal, because I don’t use that much energy. The cost to try to acquire me may not be as efficient as acquiring somebody else who has a larger load to reduce. At the same time, how much energy you use is as important as when you use it, if you’re on the appropriate plan. So we also look at families with the potential to shift the times when they use energy.”

#### **Discussion Questions:**

*What tactics do you use to adjust customer acquisition goals for your DSM program when you experience fluctuations in market response?*

*Do your load reduction goals influence your definition of your target customer? How do you balance load reduction goals with participation goals?*

#### **Market potential: setting realistic acquisition goals**

Because they were introducing a new product, PG&E had to stay conscious of the market response and the funding stream, calibrating their marketing efforts accordingly.

Huynh was instrumental in designing a new marketing campaign in 2012 based on targets set by the Product Design team. She remembers the decision to stay flexible from the beginning as they kept the end goal in mind: “When we started in 2012, we were successful in acquiring our target goal of 100,000 customers by the end of 2013. We wanted to explore whether that was truly a good number for Smart Rate. Were we hitting the top 1%, or the maximum number of customers who are able to join the program and succeed? If we were to promote Smart Rate to all five million customers in the PG&E territory, would that result in the total number of customers who could potentially enroll in the program? What would our cost be if we had an

unlimited budget? More realistically, what is the number that you would want to enroll in the program when your acquisition cost is at its peak? “

With an eye on overall program performance, Nicola Forster, Solutions Marketing Manager, continues to remind program managers to stay on top of load reduction as well as acquisition goals: “We continue to fine tune and make sure our model is working. To date, I think that we’ve also seen that we’re on the right track for load.”

## 2 | FOCUS ON CUSTOMER SATISFACTION

From the communication strategy to the rate itself, PG&E designed with the objective of creating an experience that would please customers. Norris elaborated: “We’ve shifted to a product management focus, putting the market in the center, because it’s really the customers: their needs, experience, and view. It’s hard from a utility geek perspective to act like a customer, so you need to go talk to customers.”

### *Discussion Questions:*

*Where are your customers already starting to embrace and understand demand response behavior?*

*How might you expand the potential of that interest with adjacent products and services?*

*Where can you minimize up-front risk for your customers to help them accept more challenging value propositions?*

### **Starting with the familiar and building from there**

To get customers to willingly ease into a voluntary program, PG&E structured SmartRate so customers did not have to get off their existing rate to get the benefits of a dynamic rate. The utility also offered an easy way for customers to exit the program if it was not working out to their benefit. Says Huynh: “SmartRate doesn’t just try to acquire customers, it educates customers at large about demand response.”

The advantage of this strategy, notes Norris, is that “customers have to actively choose to participate in the rate, so you actually get an engaged customer. They know what they signed up for, they’re going to test it out.”

Dynamic rates can be a tricky value proposition and thus require education and support. Customers who do not perform well on these rates need options as much as those who thrive; both kinds of customers can be ambassadors for the inherent consumer benefits these rates offer. In the case of SmartRate, says Norris, PG&E’s tactic was to provide a lot of coaching for customers on the rates to help them succeed. If they turned out to be bad candidates for the rates, they were let off without penalties, but the utility felt there was still a gain in that these customers understood the intrinsic value of the rate for other segments of customers.

“SmartRate comes with a season’s worth of bill protection, so if you come in mid-cycle, you get the rest of that period plus all of next season with bill protection. In effect, you try the rate risk-free, learn how to behave, learn how to make the rate work for you, and if it didn’t work for you, we send you a credit at the end of the season that says ‘You’ve earned some bill protection here, which means you didn’t do so well on the rate. Let’s see if we can help you with some tips; you still have time next year.’

“The job that we then play is to keep advising them on how they’re doing against the risk that they’ve signed up for. The trick is finding those customers that have an appetite to get on the bike with training wheels and try it to see if it makes their bill go down.”



Figure 1: Sample online rate comparison

### Creating easy paths to participation

To acquire customers for the rate, PG&E tries to reduce the hurdles to embracing new options. Norris explains, “We keep the rate simple so it’s easy to explain to customers. Customers can log in to the [web-based] MyEnergy site and do a personalized rate comparison between the rate that they’re on and what that rate would look like if they were on a smart rate, a time of use rate, or a time of use with smart rate. We help them do the math and they decide whether they have an appetite for it.” The online rate comparison is simply and graphically presented

“If they do [have the appetite for the rate], then they just enroll. We make it really easy for them to enroll - They should be able to sign up online, take the plunge, and be done with it. If they don’t want to interact with a person over the toll-free number, they can just go on the web or fill out the business reply card.”

### Changing the nature of utility contact center support

The product team wanted to take the approach of starting where customers are and then adding to their understanding to prepare them to make a decision about SmartRate. Examples from real customer feedback are collected and shared with customers. This reduces the perception that SmartRate is complicated or suspect. Says Huynh, “A lot of the information is based on customer feedback through the years - whether they like the program and how they’ve been successful in it. We wanted to share that with customers, too.”

The Contact Center is key to this effort. Huynh explains that PG&E’s Customer Service Representatives adopt a posture of being “...willing and available to answer any questions that may not be as obvious through the clutter of messages out there or on our website. They simply help customers, walking them through the decision process of whether this is the perfect choice for them. We don’t want CSRs to tell customers that this Smart Rate is right, but we want to be able to inform them to make an educated decision about changing their rate.”

“We go through standard questions, providing CSRs with talking points about all the key aspects of the program. They have all the factual data to share with the customers, but based on the past few years when we promoted the program, they also have answers to the most common questions that come in. They can go through certain scenarios. As I said, we’re not trying to push customers to get on the program, we’re just letting them understand the big picture and some of their options are so they can make the best decision.”

### Retaining customers is as important as gaining customers

Norris made a point to emphasize that “We also had to help the internal stakeholders understand that we’ve invested a lot of money to get that one guy to sign up. Don’t let him go. Especially because he has bill protection! Make sure that the contact center is trained to sell the program, and retain customers when a customer calls and says (as many will), ‘I hate this. You’re talking to me too many times on an event day.’ A typical response would be ‘Fine, let’s just get you off the rate.’ Instead, we’re training them to say ‘Let’s just adjust your notification channels. You’ve got too many and that’s why you’re feeling over-notified.’

This applies not just to the call center but also to the local offices where customers can come in and pay their bills and talk to reps. That is enormous, but worth the investment, because everybody bought in on it. “



### Walking in the customer’s shoes

Norris spoke at length about combating the over-engineering of products by making a habit of walking in the customer’s shoes: “I always ask, ‘would your mother, aunt or niece understand that? For example, I’ve told my mother she needs to turn down her water heater - it’s too hot and she’s wasting energy. Well, she doesn’t know how to do that. That was a light bulb moment for me. My mom doesn’t know how to turn her water heater down, yet we’re telling millions of customers to turn down their water heater.”

“Clearly you need to put yourself in the customer’s shoes and start to invest in the focus groups, invest in going out and talking to customers. It can even be friends at a party, it doesn’t have to be a statistically accurate sample. But understand how your customers view energy.”

### Coordinating messages

With so many programs and products, PG&E faces the danger of confusion, clutter or contradiction. Says Norris: “One of the bigger challenges is over-communicating to customers. I can imagine that this is a challenge for other utility companies too. There is a major coordination effort that happens on our marketing and outreach external communication side to make sure that our communications flow in a way that makes sense. We are communicating on event days, with welcome kits or welcome back kits, or maybe the end of the season mailers. Can you imagine if we sent three separate envelopes with three separate things from PG&E?”

“We’re using our billing system to communicate offers to customers, and it’s not ideal. So we’re searching for the best channel to talk to the customer; we want to know where they want us to communicate to them, when it’s a bill, a marketing piece or an offer.”

### Do what you say you’ll do

Although it seems obvious, Norris emphasizes the importance of following through on peak pricing event days to show that utilities are fulfilling their part of the contract. “Give customers credits if you want, give them the surcharge on these event days, but the key thing is this: actually have event days! That’s why customers signed up. Their reasons may vary: to help relieve stress on the grid, avoid building more power plants, doing all these great things. But what’s true for all is that customers want to participate”

“As you move down the market diffusion curve from the early innovators, early adopters, early majority, to late majority, the level of engagement starts to increase as you get more customers in who have opted in to this rate. They’re taking active steps to do well, whether it’s for their own

purse or their altruistic need to help the utility. With this curve of adoption, you achieve market transition.”

### 3 | CUSTOMER SERVICE ACROSS FUNCTIONS

The SmartRate team was comprised of key personnel from a broad spectrum of departments: Marketing, Products, IT, Contact Center, and Regulatory Affairs. These departments worked together from the beginning to release a product they were sure would please customers. The team still meets weekly to review program performance so that adjustments can be made rapidly across functions.

#### *Discussion Questions:*

*Make a list of all the instances where your utility interacts with customers.*

*What does the customer experience look like at each of those touch points? (Think about details, like how the envelope feels or the number of clicks it takes to get to an answer on the web.)*

*How can you make sure that your DSM message is represented and reinforced at each of those channels?*

*Are there untapped opportunities to further educate and cultivate your customers?*

As a Senior Manager in the Pricing Products group, Norris is sensitive to how much her group’s work impacts other groups within PG&E. “Launching a new program like this, with a centralized view of the customer, I envision the hub of a wagon wheel with spokes coming out. This touches almost every part of our organization. It’s a challenge because we’ve never really worked symbiotically like this before. It’s always been ‘they’re doing this to me and my group has to catch it.’ I didn’t want it to be like that. I wanted it to be a team-driven approach.”

#### **Making sure the product meets customer expectations**

Across the board, PG&E’s SmartRate team emphasizes the importance of internal launch readiness. Despite the aggressive timeline dictated by regulatory proceedings, the SmartRate team was careful not to release their product until they were sure it would satisfy customers. This level of customer support required a deliberate focus on internal coordination at PG&E.

Forster underscores the logistics involved in preparing teams across functions to deliver what customers expected, in a timely and seamless manner: “We weren’t ready, from an [operational] standpoint. Huynh made a decision to move [the release] date out, which was a little worrisome; how were we going to hit our goals if we reduced the amount of time we can be at market? Ultimately, it was the right decision because if we hadn’t had the [operational] infrastructure in place, it would have been a disaster for any customer coming into the process.”

#### **Aligning departments within the utility**

Most of the preparation for what the customer actually sees happens in hours of coordination and trials behind the scenes. For PG&E, rolling out SmartRate meant a significant investment in data management, customer service protocols, marketing and communications strategy, and any direct customer contact. Says Forster, “Coordination and stakeholder ownership meant that everyone was fully aware of what was going on and could communicate to their teams so everyone was on the same page. That was critical. Kaitlyn and her counterparts from the products group collaborated with various representatives, including IT, the contact center and countless other legal, compliance, and regulatory groups. They all participated in a weekly status meeting, where everything was reviewed and outlined and had owners.”

**Discussion Questions:**

*What structures are in place at your utility to align activities between departments?*

*What are the key performance indicators (KPIs) relating to customer experience at each department at your utility?*

*How do these KPIs support the goals of your DSM program?*

Huynh points out that as a company, PG&E was ripe for this approach: “I would say that this is a culture we’ve been trying to improve upon over the past few years. Everyone has been supportive with providing the best customer service possible. We’re all striving for the same end goal whether we’re from the marketing department, the product group or the contact center. We’re pushing our program to our customers, so we want customers to be satisfied with what we’re asking them to do.”

“It’s not a new approach. It’s just with this one there’s a lot of more intricate coordination than most programs.”

Norris appreciated another valuable outcome: “Everybody in the company knows what’s going to happen, how it works, and how cool it is. In this way, they can also be your sales force and your promoters.”

**Meeting customer expectations at every stage**

Huynh explained that the objective of an interdisciplinary approach to the customer experience is to deliver a program that satisfies at every level of engagement. Everyone from the mail room clerk to the CEO had to be on board for the mission of helping customers learn how to benefit from a dynamic rate.

“Beyond the contact center we consult with our regulatory teams as well as the legal team to make sure that the information we provide is succinct and accurate. We also work with the finance team, the local offices, and office services to make sure to tackle each point of customer communication or touch point they can ask questions about the program in and of itself. We want to make sure that we’re addressing each communication point for a customer. We’ve also developed an escalation process so when a question comes in that’s an exception, the appropriate teams can address it.”

Again, Norris goes back to the idea of putting yourself in the customer’s shoes. “Make that investment in research to make sure that you consider the customer experience from the first minute I tell them about this. It all has to happen seamlessly, starting with ‘Is the letter easy to open? How are they going to sign up?’ We had to work with our IT department to build websites and computer systems for our customer to enroll online, for business reply cards to get data entered somewhere, and then to come back over to us to have it all flow through our system and not inundate our billing center to move everybody onto this new rate. Then we look at all the exceptions and consider how to build a tool or an algorithm to help catch those next time around.”

“We were enrolling all these customers in the middle of the season. The likelihood that a customer would flip into the rate and we have an event day the next day was there. We were ready for that, to make sure that the AC cycling devices would get triggered and that all of the steps would flow smoothly and that we would get feedback.”

**Systematic feedback loops**

In keeping with their objective of delivering what customers want and expect, the SmartRate team is constantly reviewing feedback to make rapid adjustments to the program. The results, according to Forster, are just emerging. “There’s very little automation around capturing all of the



customer issues or complaints or praise to understand what themes are starting to emerge. It's still very manual. A lot of these customer issues have to be handled on a one-by-one basis, which is very resource intensive. We're still in the toddler stage, even though the program has been around for a while."

"We make sure we have weekly calls with our call center to understand what happened at various points - the last event day, customer mailer, or other customer communications. The call center asks us to throttle the messaging, because if they go out in bursts, it helps them manage the calls. It's very systematic."

"When you're capturing the stats on all of this, you can see how one little minor tweak helps them on the other end. You've got to be centered around this hub of the wheel where you've got all the stakeholders having conversations routinely."

#### 4 | SMART METER DATA USED APPROPRIATELY

Norris acknowledges that being a pioneer in smart meter rollouts puts PG&E in a position of great opportunity, but also great responsibility. The ability to combine the personalized insight of interval data with management tools can create more value for consumers – but only if driven by an intention to better serve customers.

##### *Discussion Questions:*

*How is your utility changing its view of customers as your customer data collection capabilities increase?*

*How might you use personalized customer insight to develop trust with your customer base?*

##### **The utility's evolving role**

PG&E's attitude toward customers is changing from being a protector or provider to being a partner and guide: "[The SmartRate] touches almost every part of our organization. Before on our standard E1 rate, [customers] didn't need granular hourly interval data. On this rate, they do. So now we're starting to build large volumes of interval data for customers. Both our customers and the customer representatives have a view into that data in our online tool."

"All of this is a new frontier for reps. Where before the rep was in the driver's seat helping the customer make the decision, now the customer is in the driver's seat making their own decisions. Hundreds of our employees are moving from this role of protector, keeping customers from making a bad decision, to enabler, helping them learn because now the customer has access to the data to make their own conscious, informed decision. Getting the reps to make this culture shift is a big change."

##### **Use facts to inspire trust**

Norris cautions: "Even when we use actual interval data and create a better rate based on performing the calculation of how customers use energy, customers say 'This is a thinly veiled plot to raise rates for me.' They still don't trust it because they don't trust the brand. The utility is seen as this big bad monopoly that customers can't do a lot about. However, if you can build trust from your customer base, it's easier to message. It drives down costs when you don't have to convince and re-convince, fighting the brand battle while you're trying to do marketing, outreach and acquisition work."

By finding ways to personally educate customers using the data collected from interval meters, PG&E was able to demonstrate the value of smart metering and secure customer trust in one move. The utility has found that once customers are simply shown their personal usage on rate plans, they become more accepting.

### **Continual engagement**

Keeping customers engaged while on the rate not only helps customers keep their end of the bargain, but also helps them understand the benefits to advance that curve of adoption. Norris outlines the intentional effort it takes to keep customers engaged once they're on SmartRate: "On Smart Rate, at the end of every season, we do a bill recap letter that says 'Here's how you did, what you could do better, where you can go for information, how you can go do an audit on your own home and understand how you're using energy.' That keeps customers engaged, and helps remind them that they're on this special rate. We also do event day notifications through a variety of channels, to give customers an opportunity to prepare for an event a day before it's going to happen.

"I signed up for SmartRate, and my husband is completely into it now. I came home the other day and he said 'Hey, tomorrow is an event day.' My husband, who is not at all an energy nerd like I am, is watching how we're doing things."

## **Moving Forward**

### **Focus on retention**

With a coordinated internal process and a good handle on acquisition, the SmartRate team is turning its attention to the crucial issue of customer retention as they move forward with the program.

Forster says: "We are asking ourselves whether we can maintain the response rates and the engagement in the program at the same level as we did in 2012. We will potentially take a slight hit this year because of the fact that we are going back into market to the same key audiences. We have an influx of so many new customers this year. As with any large marketing campaign, we're still trying to fine-tune and optimize. We're monitoring our efforts for retention, which consist primarily of in-season communications (how we notify people about Smart Days and ensure that we're making this as easy and as streamlined as possible), because the one thing we want to do is maintain the newly acquired customers. It's a whole lot cheaper to keep those than get new ones. The retention campaigns are just as complex and robust as the acquisition campaign. We anticipate the season, which is May through October, making sure people remember what the program is about and that it's upcoming."

"Our attrition is very, very low, around 1%. That number is based on people who don't like the program, [versus people who move]." Forster's team plans to take a closer look at that 1% of customer who drop or opt out of the program. "Historically people have gotten off the program when they experience 2-3 Smart Days. We're not sure exactly what that reason is."

### **Operational efficiency**

"At the same time, we want to make sure that we can operationalize this campaign after a few years, because we want to make sure that we're doing it as efficiently and as effectively as possible. We're working on texting as a less intrusive notification device, because people are saying that we were inundating them with phone calls. We have tried to go back into our acquisition materials as well as our welcome materials to clean up the language so that the expectations are set at the beginning and customers understand the program fully, so that they're not surprised when we call them four times if they have supplied us with four numbers."

## Surprising outcomes: the halo effect

Participation in the SmartRate has created consumers who are more aware of the significant role they play in energy distribution, and has made customers willing to explore other PG&E product offerings as well.

## Creating demand for adjacent programs

Norris describes the way SmartRate complements other DSM programs at PG&E: “It’s a nice way to bundle products together. We can go after smart AC customers and say, ‘You already have this device, so if you got under this rate we could help you save money and you’d deliver more load. Conversely, if you’re on smart AC, this is a rate that you can actually be more advantageous for you because you have this device.’” In fact, the sign-up rates for SmartRate marketed to SmartAC customers are much higher than for non-SmartAC customers, and vice versa, as documented in the 2009 program evaluation report.<sup>4</sup>

“The home area network technology that we’re going to start deploying will be another channel to use to notify customers and help them see how and when they’re using energy. You can do the same thing with time of use.”

As a result of programs like SmartRate, customers understand smart grid and demand side management better. Says Norris, “You could tell customers that it’s not hard to understand time of use when you explain simple economics like supply and demand. If we can help customers understand how they can be a part of that and reduce those middle layer costs in the high peak periods, then it benefits everyone, because it all trickles down.”

Norris would love to see even more customer education as these programs expand. “We’re starting to look into talking to customers who could be doing better, because we have this granular level of detail to sit down with customers and counsel them. They’re benefitting from all the credits, yet they are not delivering load on event days; perhaps they are not really trying, so let’s see what we can get them to do. You risk attrition from those kinds of pushes, but you also may get greater engagement.”

## Successful participation from low-income consumers

PG&E’s purposeful and flexible approach to customer acquisition and support yielded solid participation of low-income customers in the SmartRate program, which went against industry analyst predictions. Says Norris, “There has been a lot of spin out there in the industry saying low-income customers can’t participate, that they don’t deliver the load. In fact, they do deliver the load, in order to save money. To our surprise, in the first couple of years of the program, we had a disproportionately large number of low-income participants. About a third of our population is low-income, but 48 percent of participants on Smart Rate were also low-income customers. Since we’ve been doing more active participation and active engagement, that number has more normalized. Around 20-28% of Smart Rate participants are also low-income participants.”<sup>5</sup>

## Closing Notes

The objective of this narrative case study is to allow readers to decide for themselves how the experience of PG&E might apply to them in their own work. Using the narrative style, not all of

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<sup>4</sup> George, Stephen, Josh Bode, Mike Perry, and Zach Mayer. *2009 Load Impact Evaluation for Pacific Gas and Electric Company’s Residential SmartRate™ - Peak Day Pricing and TOU Tariffs and SmartAC Program, Volume 2: Ex Ante Load Impacts*. Final Report. San Francisco: Freeman, Sullivan & Co. April 1, 2010.

<sup>5</sup> George, *2009 Load Impact Evaluation Volume 2*,

the data, details, etc that readers may need to fully draw their own conclusions are presented here; practitioners are encouraged to examine additional information available on the PG&E website and in the other resources below.

### Observations of the Author

The design and implementation of SmartRate demonstrates the rippling effects that a customer-centric approach to rate design has on organizational culture and customer relationships. A significant effort was required behind the scenes to achieve the success demonstrated by SmartRate over the past five years. When PG&E altered its relationship to customers from being a “provider” to being a “partner and guide”, the amount of customer service activity required by this product impacted more departments. Notable lessons from PG&E’s experience are:

1. Having a high standard for product quality – especially for whether it will satisfy customer needs and achieve load reduction requirements – might delay going to market, but will ultimately result in better program performance.
2. All efforts across the operation must be bent toward a common goal. That goal should be clearly expressed and constantly reinforced. Frequent, regular meetings with all departments represented at the table are the most fundamental way to achieve this. The SmartRate team’s diligence about this basic requirement paid off in a smoother, more responsive customer experience, and fostered alignment in other areas as well.
3. Customer retention is as important as customer acquisition, so resources should be devoted to maintaining the customer base and helping customers perform well on the rate.

### Other Pertinent Case Studies

George, Stephen, Josh Bode, Mike Perry, and Zach Mayer. *2009 Load Impact Evaluation for Pacific Gas and Electric Company’s Residential SmartRate™ - Peak Day Pricing and TOU Tariffs and SmartAC Program, Volume 1: Ex Post Load Impacts*. Final Report. San Francisco: Freeman, Sullivan & Co. April 1, 2010. Download: <http://fscgroup.com/reports/volume-one.pdf>

George, Stephen, Josh Bode, Mike Perry, and Zach Mayer. *2009 Load Impact Evaluation for Pacific Gas and Electric Company’s Residential SmartRate™ - Peak Day Pricing and TOU Tariffs and SmartAC Program, Volume 2: Ex Ante Load Impacts*. Final Report. San Francisco: Freeman, Sullivan & Co. April 1, 2010. Download: <http://fscgroup.com/reports/volume-two.pdf>

Norris, Susan. *Effectively Targeting Customers and Driving Engagement*. Presentation given at National Town Meeting on Demand Response and Smart Grid. Washington, D.C., July 11, 2013. Download: <http://www.demandresponsetownmeeting.com/wp-content/uploads/2012/03/1A-0830-NORRIS.pdf>

Perry, Michael, Aimee Savage, Liz Hartmann, Jeeheh Oh, and Stephen George. *2012 Load Impact Evaluation of Pacific Gas and Electric Company’s Residential Time-based Pricing Programs*. San Francisco: Freeman, Sullivan & Co. April 1, 2013. Download: <http://fscgroup.com/reports/pge-2012-residential-tvp-programs.pdf>

## Author's Bio

Sharon Talbott enjoys researching systemic changes that advance the new energy economy. She draws on her experience as a marketing and strategic planning professional at Smart Grid technology and energy-efficiency firms. In her various roles, Sharon has assisted utilities seeking to introduce new services while balancing sensitive stakeholder positions; provided management support to oft-cited dynamic pricing pilots in North America; and applied behavioral science and customer relationship management expertise to design engaging consumer experiences for Smart Grid products. Trained in linguistics and anthropology, Sharon now works on projects that nurture the human side of an intelligent, distributed electric grid.