



San Diego Gas & Electric (SDG&E)

Innovation in a Learning Organization

October 2013



Image above: The Hispanic Society of Engineers held the inaugural *Flex Your Power* Loteria event at Granger Junior High School in National City. This “bingo” game taught youngsters important ways to be energy efficient.

ADS chose SDG&E for this case study for the following reasons:

1. **This investor-owned utility has truly embraced what it means to be a creative learning organization;**
2. **The practice of co-creation with consumers is rewarded by leadership and embedded in their culture and program design efforts;**
3. **The lessons are applicable to other jurisdictions for utilities of any size or governance structure;**
4. **Smart meters provide an enabling technology and opportunity to learn from customers as well as improve service;**
5. **The approach contributes to positive relationships with regulators, interveners, and other stakeholders;**
6. **This mindset can be applied without significant financial investment yet enables large potential returns.**

National Action Plan on Demand Response Case Study #4

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.”

Case Study Audience

The NAPDR called for the development and dissemination of case studies as an action to support demand response practitioners and policymakers. In developing its own plan, the Association for Demand Response and Smart Grid (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. Consumers and the general public are not the intended audience of this paper.

The approach we have chosen includes interviewing relevant stakeholders and leveraging other published sources to collect varied perspectives (representative customers, consumer and/or environmental advocates, utility staff, regulators, and relevant technology or service providers and analysts) and present them in a way that would help others apply the practices to their own situations.

Case Study Structure and Uses

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. Written versions (printable on demand) are posted online with links to relevant studies, data, and web, video, and collateral at: www.demandresponsesmartgrid.org.

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 players 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?

San Diego Gas & Electric: Innovation in a Learning Organization



SDG&E is a regulated public utility that provides energy service to 3.4 million people through 1.4 million electric meters and 860,000 natural gas meters in San Diego and southern Orange counties. The service area spans 4,100 square miles.

The Company employs 5,000 people who are encouraged to play meaningful roles in their customers' lives by producing and delivering energy to homes and businesses. The theme of "being connected" is critical to accomplishing this job safely, reliably and sustainably. This video offers the inspiration behind SDG&E's commitment. <http://www.sdge.com/our-company/our-connected-commitment>

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SDG&E exemplifies what noted author, researcher, and professor Peter Senge describes as a "Learning Organization." This case study examines in-depth how the utility's smart meter deployment and outreach affected their traditional business processes and how they involved customers and stakeholders to co-design new products, programs, and systems. In a disciplined yet responsive framework, the organization tries new approaches and makes timely adjustments based on what they learn from their experiences. SDG&E is executing a strategic and customer-centric product marketing process as well as being responsive enough to prototype customer programs in the field.

This case study examines the role that a learning culture plays in allowing a large, mature company to innovate.

Top lessons learned by SDG&E:

1. Cultural shifts take time and commitment from **leadership** and managers throughout the organization.
2. **Transparency** and accountability are critical to effective collaboration.
3. If customers, stakeholders, and interveners are partners in the **co-creation** process, they have a vested interest in the successful outcome of new programs and practices.
4. **Prototyping** and rapid development models work successfully with a structured collaborative framework, even in regulated environments.
5. Working with trusted **community-based partners** allows utilities to proactively anticipate the changing requirements and concerns of evolving communities while communicating more effectively.
6. Deployment of smart meters can provide a focal point to **connect** with every customer in a positive and **proactive** way.
7. A **learning mindset** is effective when applied to technical, IT, and operational projects as well as customer outreach.

Lessons Learned at a Glance

As this chart illustrates, the lessons and principles adopted by SDG&E permeate their organization. They have become part of the Company’s DNA and improve relationships and operations at all levels.

Section	Leadership	Transparency	Co-creation	Prototype	Community partners	Connect proactively	Learning mindset
Intro: Be Ready to Respond to the Unexpected page 5							
Apply lessons learned in real time	●	●		●	●	●	●
What is a learning organization?	●		●	●		●	●
Dynamic outreach	●	●	●		●	●	●
Create a Culture of Innovation..... page 8							
Reward accountability and transparency	●	●	●	●	●		●
Translate vision into action	●	●				●	●
Learn from industry peers	●	●	●	●	●	●	●
Anticipate problems before they occur	●	●	●	●		●	●
Devise programs that deliver on the brand promise	●	●	●			●	●
Test concepts with customers	●		●	●		●	●
Break Down Barriers..... page 14							
Transcend content and organizational silos	●	●	●		●	●	●
Work through community partners	●	●	●	●	●	●	●
Learn to leverage social media	●	●	●	●	●	●	●
Address Future Challenges..... page 19							
Integrate rooftop solar smoothly							
Evolve DR to a more efficient and automated resource							
Improve connections with customers							

Intro: Be Ready to Respond to the Unexpected

A learning organization is more resilient in emergency situations and gains new knowledge and insights from internal and external resources.

Local community partner ABDNHA helped get the word out to people via their smartphones. From their FaceBook page:

[Anza-Borrego Desert Natural History Association](#)

Regarding Electric Power in Borrego Springs, today: Sat., Sept 7 at 9:46 AM:

“Power is now on in the center of town due to the Microgrid. Power is still off in the neighborhoods north and south of town, with expected return at 7 pm tonight. There are Cool Zones people may go today: at the county library at The Mall, and at Borrego Springs Resort. If you have medicine that needs to stay cool, we would think you can take it to a refrigerator at one of the cool zones.”

Apply lessons learned in real-time

It’s Monday morning, September 9, 2013. SDG&E President and COO Mike Niggli walks into the office of Vice President of Customer Services, Caroline Winn. “I want to say congratulations on restoring the Borrego outage. You guys got it done. Good job. Sounds like everything ultimately got handled and the customers were taken care of.”

Niggli quickly shifts to problem solving mode, anticipating what might happen next time there is an extreme weather event. “Electric Operations is checking in with the new solar plant and will see how can we connect in the future. As long as we have the microgrid running, it gives us the electric control system capability. The question is whether the controls are in place to do that, given it’s a brand new facility. That would help us deal with future situations as long as we’re giving them the AC signal they need.”

After her boss leaves, Winn paints a picture of the recent emergency, “Many of us worked throughout the weekend. We have a small community out in the east – it’s called Borrego Springs – that was hit with lightning and flash flooding that took out 20 poles. It took out our entire feed to that community of about 3,000 customers.

“This happened Friday afternoon. It was 100-plus degrees and very humid. We mobilized very quickly. We had all of our line crews out, all the material out. But the roads were flooded, so we had some time before we could get them in. So we had one team doing that. We had another team focused on communicating with our most vulnerable residents. Those are our medical baseline customers who require life support.

“Juanita Hayes, our regional public affairs rep was out there. She knows the customers out there. She knows the local officials out there. She knows the chambers out there. She was helping us drive ‘where can we get these cool zones? Where can we get generators, so that these folks have somewhere to go to get air conditioning in this type of weather?’

“I was most proud of the way we were trying things that we’ve never tried before and were very successful. We got generators running so that we had places for seniors. For customers who needed life support we offered rooms. We tried new approaches. We learned important lessons that we will incorporate into the next event we face.”

Winn acknowledges that not all efforts work as smoothly as she’d like. “After every event and initiative we hold debriefings where we say ‘let’s learn from mistakes and move on.’ If employees have an executive or boss always telling them that this is the type of culture we have, it certainly helps alleviate and remove anxieties around, ‘man, that didn’t work,’ or ‘I feel bad that that didn’t work.’

Discussion Questions:

How does your executive team communicate their attitude towards applying new methods in a time of crisis?

How does your organization provide a safe forum to evaluate approaches that need adjustment?

If you are not already familiar with the writings of Peter Senge, this page provides an overview of his approach <http://infed.org/mobi/peter-senge-and-the-learning-organization/>

Customer Performance Group (CPG) conducted an offsite with Sempra leadership to establish a shared vision for the desired customer relationship. Sempra CEO Debra Reed and Sr. VP Anne Smith set the stage with “we need to change the relationship with the customer.” Everyone else in the organization worked on “from what to what?” That’s how the shared vision of “Proactive, Mutually Beneficial, and Collaborative” came into being.

Systems thinking provided the foundation to help the team think about customer satisfaction as a system, or the customer experience of deploying meters as a system. CPG’s Coproduction Experience Model was used to help explain why certain things have worked well for them, such as the customer experience around electric vehicles, and how they could improve upon it.

“For example, we had an issue with some generators we wanted to deploy. We had someone who went out there Friday afternoon. He worked all night. He worked until Saturday afternoon, when we got power restored. He got the generator going but they had the wrong connections. So they could only put part of this cool zone up.

“It took them three or four hours before they got the rest of it up. But our guy was really beating himself up because he didn’t get the right connections. As long as we know that we’re doing our best, we’ll learn from this. Next time, we’ll have a checklist, so that we identify all the connections you need for this particular generator. It won’t happen again.

“Our job as executives is to instill that attitude. If you want to convey innovation and creative thinking and always encourage people to improve, you need that type of culture.”

What is a learning organization?

Organizational development and management guru, Dr. Peter Senge established the concept in his 1990 book *The Fifth Discipline*, based on many years of research at MIT (Massachusetts Institute of Technology). His vision of a learning organization is “a group of people who are continually enhancing their capabilities to create what they want to create.” The five central disciplines are:

- Systems thinking
- Personal mastery
- Mental models
- Building shared vision
- Team learning

SDG&E has worked extensively with Dr. Peter Honebein and Roy Cammarano of the Customer Performance Group. CPG uses principles of various theories, including Senge’s, as the foundation for their work, particularly the principle of “shared vision.” At SDG&E the vision was framed as “**Proactive, Mutually Beneficial, and Collaborative.**”

Caroline Winn describes systems thinking as “it’s not just one voice when it comes to initiatives. You have to consider many different perspectives when developing your programs and recognize not everyone is the same. You have to talk to many different people to get those varied viewpoints in order to develop a successful program, especially one like our smart meter program that affects every single residential customer that we have connected to the grid.”

Ted Reguly, Director of Customer Programs and Assistance, echoes the emphasis on listening. “As an industry, we’re very good at ‘build it and the customers will come.’ So, instead of doing that, co-creation emphasizes finding out what they want, collaborating with them to design processes, and having them help you to figure out how to deliver it.”

Collaborating with trusted community groups and partners allows utilities to proactively anticipate the changing requirements and concerns of evolving communities while communicating more effectively.

Discussion Questions:

What are the kinds of changes you've seen in your community or region? Are they economic or demographic? Are people leaving or moving into the area?

Are there new populations who speak other languages putting demands on your programs?

What are the ways you listen to your constituents today? Are you using informal and interactive methods to complement your market research and focus groups?

Dynamic outreach

Pedro Villegas, Director of Community Relations for SDG&E, describes how the company's attitude has changed in the past decade. "If you compare this company when I first joined and how we did our communications, it wasn't really a collaborative stakeholder process. We would come up with the best decision we could on whatever challenge we were facing, and then we would go out to the community to share that decision with them. Now we actually get stakeholders involved at the front end."

This flexible style of organizational development allows a company to be more proactive and responsive to changes in the local community.

Villegas continues, "As you might expect, the commitment to inclusiveness in decision making, first of all, raises everyone's IQ. It raises the company's IQ on communities and the people it serves. The genius is it recognizes the reality of a marketplace as a moving target.

"Communities change over time. Before, you had no Burmese living in town, and now you have lots of Burmese living in your neighborhoods. Or before, you had no Somalis living in San Diego. Now you have Somalis living in your neighborhood. Or before, you had no Afghan and Iraqi veterans of war living in your neighborhood. Now you have veterans of war.

"Having that sort of inclusiveness, where you're always inviting new stakeholders to the table to discuss what you—as basically the sole energy provider in this region—need to actually accomplish on joint goals in the community – that's invaluable.

"The process raises our IQ of what's important to those communities and how to come up with decisions that are more well-rounded and comprehensive and that take into account variables that we didn't take into account because they weren't relevant before.

"And finally it raises the IQ of our industry and of energy. There are lots of organizations that are devoted to raising the health IQ, for example – of communities in San Diego County or communities anywhere – raising the awareness of what you have to do to get into college, those type of things.

"Now we have, through our process, the ability to raise the awareness of what it takes to run an energy system that serves everyone reliably, 24 hours a day while raising the IQ of what folks can do to be energy healthy, and practice the types of energy efficiency that fit their lives."

This dynamic mindset allows SDG&E to obtain the value of all of Senge's central disciplines including systems thinking, personal mastery, mental models, building shared vision, and team learning.

Cultural shifts take time and commitment from leadership and managers throughout the organization. Transparency and accountability are critical to effective collaboration.

Discussion Questions:

What are the guiding principles of your organization? Have they changed at all over time and if so, how?

How would you describe your “tone from the top?”

How does your corporate culture view transparency? Is it rewarded? What about accountability?

What would be the barriers, if any, to a ‘no secrets’ policy?

How does this work when dealing with the public? What are the potential risks and rewards?

What is reasonable to expect from long-time employees and how can they be encouraged to adopt new practices or take on new challenges?

Reward accountability and transparency

A common thread among leading utilities is that the top executives in the organization drive and reward more transparent relationships both internally and externally.

Caroline Winn notes, “In any innovative culture, you have to understand that not everything’s going to be a success. And you have to set a culture that says, you know what? If it doesn’t work, we’re going to learn from it and we’re going to do something different. But we have to be flexible enough to have that mindset and to have that culture. However, culture is a really hard and long thing to change.”

The transformation starts with the “tone from the top” as Ted Reguly found, “I reported to Anne Smith (then Senior VP of Customer Services) at the time we started the pilot in 2007. And I learned very early on to bring things to her attention, that as long as I was transparent and I told her the facts, she handled them very well. She was very much into ‘OK, what are you going to do about X? Thanks.’ She’d give me guidance about how to handle those sorts of situations.”

This cultural shift percolated down through the organization, as other people modified their dealings with their direct reports. It took many months to become widespread. Reguly recalls “I think if you go back and you look at the smart meter roll out, people say it was successful, very customer friendly. But they’ll also say there were no secrets. It generated a really good culture and atmosphere that we’re trying to maintain as we go forward with other endeavors.”

Risa Baron, External Affairs Outreach Manager, reported to Reguly during the pilot. “I wasn’t there at the beginning. I came onto the project right before the mass deployment started. It became clear to me there were no secrets. I knew that I was going to be backed up and supported by my boss and he knew that we would sometimes have to make decisions on the fly. If something came up and if I couldn’t get reach Ted, we would make the call. We knew that it was safe to take that initiative and that delegation of authority was encouraged throughout the organization.”

Ted emphasizes the opportunities and risks of shared responsibility, “That was probably one of the most powerful things about this, is people really had each other’s backs. We learned from experience. ‘Find it, fix it and move on.’ Now, if we found things that were systemic that we needed to address – we definitely would take those on in parallel. But we continue to always try to go after the process and protect people’s integrity and not go after people themselves.”

SDG&E enjoys very low attrition among its employees, and the shift to heightened expectations and visibility was not comfortable for everyone Reguly acknowledges. “We had a few people who left the project. They might have stayed with SDG&E, but they decided working on the pilot

If customers, stakeholders, and interveners are partners in the creation process, they have a vested interest in the successful outcome of new programs and practices.

Prototyping and rapid development models work successfully with a structured collaborative framework, even in regulated environments.

Discussion Questions:

How could interveners be brought into your process to make room for innovation?

What is the role of the regulator or oversight body in a learning organization?

Has your organization articulated a clear vision? Give examples of how that vision was translated into action by employees.

might not be the best fit for them. While it was transparent, it also was very hard work. You were held accountable. That's our culture, too. The way we handled it on the project was to raise the bar very high and people either found someplace else to go or we found places for those people to go."

The willingness to be both accountable and transparent extends to relationships with stakeholders, media, and customers. The approach allowed widespread support for well-managed experimentation.

Reguly describes the role of the technology advisory panel, which was made up of regulators, statutory interveners, and independent experts such as Dan Delurey of the Demand Response Smart Grid Coalition. "It was very helpful explaining to them what we were doing. They provided us with input also. They helped SDG&E become a better learning organization. We always tried to make little steps, learn from them and then increase scale after.

"Whenever we tried a new concept, we'd start with SDG&E employees first. We'd do it with 20, 30 people. Right? Let's now roll it out and we'll do it with 100 early adopters. Those were the ones that were sending us emails; people that we knew wanted to get engaged and we would work with them to improve the offering. We tried at least once or twice to roll out what I'd call a big bang with a big software release and we stumbled every time. And so we then went away from big bang to more of an iterative – they call it an agile approach, where you roll out limited phases and we found that to be very useful for us."

Translate vision into action

Caroline Winn makes the connection between conceptual vision and execution. "The smart meter project was full of radical ideas so we had to set a vision for what the program was going to be and share that vision with everyone who was working on the program. We agreed there weren't going to be any surprises among our team. We were going to be proactive in communicating to customers. We were going to be open and transparent with stakeholders."

Risa Baron sees important distinctions between stakeholders and customers, "I work in the stakeholders space. The organizations I work with might be business-oriented or residential-oriented but they have as their core mission a reason to pay attention to operations and policy. And for us, it's building that relationship with the stakeholder association and getting them to understand our issues, and understanding that it's a really complicated industry."

Winn wanted to be able to tell the Commission, "This is where we want to go. These are the things that we're going to do. We kept them informed on all the points along the way."

Deployment of smart meters can provide a focal point to connect with every customer in a positive and proactive way.

Discussion Questions:

What lessons do you take away from the experience of the smart meter pioneers?

Are you still feeling the effects of the protests in your service territory? What are you doing to counteract those influences?

The 90-60-30 protocol used by SDG&E, ComEd, and NV Energy is described fully in *The Smart Meter Deployment Handbook*, published by NV Energy and the Department of Energy. The protocol was prototyped and illustrates that if customers, stakeholders, and interveners are partners in the creation process, they have a vested interest in the successful outcome of new programs and practices.

One of the best examples combining the lessons learned is the way the utility anticipated the potential problems and bill shock that might occur with customers with old meters that had been running slowly and inaccurately for years. What might have been a major issue became an opportunity to build positive relationships.

Learn from industry peers

The Company also learned from the experiences of the other utilities that went before them. PG&E was one of the smart grid pioneers in California and North America.

In 2008, PG&E conducted a smart meter and rate pilot in Bakersfield, California that went very smoothly with enthusiastic responses and high customer satisfaction scores. When full-scale deployment was underway in 2009, several factors converged: new rate tiers for high consumption households, an extremely hot summer, and a low-key outreach communications strategy that seemed consistent with previous equipment exchanges.

Many residents in the hottest parts of the service territory experienced higher bills. A perfect storm of customer service missteps, misinformation from a handful of activists, the tragic gas line explosion in San Bruno, and negative media coverage fueled a consumer backlash that was not only directed at PG&E. It affected the entire state and industry. Concerns are still being elevated across North America even though opt-outs remain a tiny percentage.

Learning from this experience, SDG&E introduced a 90-60-30 day implementation protocol— a phased approach for deploying meters throughout the region:

- 90 days out face-to-face meetings were held with community leaders and public safety personnel;
- In the 60 days prior to installation, personnel spoke at community gatherings so people could understand what to expect.
- 30 days ahead customers received notification letters when they could expect installation crews to be at their homes.
- A few days before installation SDG&E called to arrange reasonable time windows. Flexibility insured computers were backed up and life-support equipment would not be affected.

Anticipate potential problems before they occur

The desire to be **proactive and mutually beneficial** was illustrated in the way the Company addressed customer perceptions that they'd be charged more money because of smart meters.

“We were monitoring customers’ energy bills so if there was a meter that was 100 years old and it was running a little bit slower than it should have been, we could proactively reach out to those customers so when they got their bill, they weren’t surprised.”

This is an instance where new technical capability combined with a business process provides mutual benefits for the company and customers. It took considerable internal debate before the program was implemented.

Discussion Questions:

SDG&E took a very inventive and creative approach to pre-empt problems.

Do you think their techniques would be equally effective in your service territory? What would be the barriers to implement such a program and what would you do to overcome those hurdles?

How would you identify people in your organization who would be well-suited for this role?

Cultural shifts take time and commitment from leadership and managers throughout the organization. Transparency and accountability are critical to effective collaboration.

Discussion Question:

Branding is more than taglines and logos. It is the way a company meets or exceeds the customers' expectations. What is your brand promise?

Risa Baron recalls, "To be frank about this one, at first, we didn't want to do it. We knew we had the data. But we said 'what do you mean we're going to call our customers in advance? We're going to be inundated with calls. We're going to be super busy. We don't have the resources to do it.'

"And then I realized, we have to do this. We don't have a choice. Put yourself in the customer's shoes. If you had a bill that was \$15 a month and it went up to \$400 a month, you're going to blame the meter. We were so concerned about media because of the experiences of others that we, as a team, decided we have to do it. No was not an option.

"Joyce Kelly (now retired) worked for me, and she was the one who made those initial calls. She was absolutely the best person in customer service to talk to the consumers. Joyce would go to field and visit them at their homes in some situations. We really took it beyond what most people would expect."

Caroline Winn draws the connection between vision and action. "If you set these objectives up front, it's easier for employees to say, 'OK, well if that's the vision, this goes right along with the vision. I guess I'm going to have to find a way to do it.' This is a great example of where we had guiding principles that people could get on board with. They might have been afraid. They might have never done it before. But they also knew they had to do the right thing for the customer.

"Looking back on the pilot, the teams should be commended, because if you look at the very small number of complaints that we got as part of the project, and all of that innovation was due to the proactive communication that we had with customers. The project serves as a great testament to many of the proactive things that we're doing today."

Devise programs that deliver on the brand promise

Winn explains the SDG&E brand is about being connected, particularly being connected to customers. "We're connected to our environment, our grid. It's one word that really, I think, exudes who SDG&E and our employees are. And so from a brand perspective, we want our employees to be human. And that's not always easy.

"It's about listening. Right? When we're in the contact center, it's not about getting off that phone in 250 seconds. It's about listening. Listen to how anxious they are, what they're saying."

Baron highlights some of the benefits of the transformation. "We're a big company in San Diego, and everyone seems to know somebody at SDG&E. In the past, people often felt we hid behind our brand. With this new approach, we brought a face to the brand. We have folks out there talking about the issues and being transparent. And when you read something in the paper, there are people who are willing to talk about those issues. There are faces and connections and relationships.

Discussion Questions:

What are the advantages and risks of being a one-stop shop?

How are the people in your contact center measured? Is customer satisfaction more important than the time per call?

Are there ways to work with vendors and complementary service providers to provide value to consumers? How would you bring regulators and oversight boards into the discussion?

Learn from Vendor Partners

Allconnect, a consumer services company based in Atlanta, Georgia, helps consumers make informed, cost-effective decisions by explaining the service plans, pricing and promotions available across a broad array of home services. Allconnect works with major service providers across the country and consults with the customer to identify the services that are right for their unique needs.

Prototyping and rapid development models work successfully with a structured collaborative framework, even in regulated environments.

Winn views the challenge in terms of flexibility and a solid financial footing for the long term. “Our brand promise is also to make sure that we’re a sustainable company, that we’re finding ways to help customers save energy and help customers with whether or not they want solar on their rooftops or they want a better different way to pay their bill.”

Winn has set a vision that SDG&E should be a one-stop shop of information and connections (illustrating the brand promise) for customers. “That was a little bit foreign because, in this context, we were used to being very transactional. Customers call to pay bills. They call about a high bill or they call about an outage and it is probably 90% transactional. But we really wanted to move towards one-stop shop.

“We had a vendor partner that had come to us three or four years ago and told us about an idea for something called “mover services.” And we thought at the time, ‘what a great idea.’ But, as a regulated utility, we had to get the commission approval first. That took 18 months, so it took a lot longer than we thought to implement.

Winn explains, “We know how many customers call to start service every month. We have a lot of military in San Diego so there are many families moving frequently. Smart meters gave us an additional capability and this concept fit right along with our mission. It all came together at once.

“I don’t know that everyone really saw the value until the project was implemented in July of 2012. When customers call us to start service, we also ask them if they want to be transferred to a company called Allconnect for this free program.

“It’s a hot transfer so the basic account information is already there. Allconnect will set up your cable, your telephone, your Internet, your trash – all those services that you need when you’re moving. And that, to me, is a great example of in one call you’re going to get all your services done.

“Having moved not that long ago, I would have totally appreciated it. The program wasn’t in place when I moved. The testimonials from customers say how easy this is and what a great service this is. It’s been a great success story for us.”

Test concepts with consumers

Ted Reguly has responsibility for new technologies and products that serve customers. “We tried collaborations with Google PowerMeter and Microsoft Hohm. The customers who used them enjoyed them but they were ahead of their time and the development companies pulled out of the market early. Google, Microsoft, and others, were hoping to get a broader take-up more quickly. They wanted to create a business model around data. But to reach a mass audience you need rates. You need incentives. You need other things that we’re still wrestling with today.

If customers representing different segments contribute to the creation process, the utility can learn who will be interested in which products and the customers will feel ownership in the new offerings.

Discussion Questions:

How are you talking with your customers to learn what types of information and tools would interest them?

One of the big industry challenges is how to align regulators, consumer advocates, and utilities around the mix of options to be made available to consumers. What is happening in your area to improve that collaboration and progress?

If Green Button apps are available in your service territory, who is using them?

What approach are you taking to segmentation and how does it move beyond analysis and become actionable?

Reguly feels the industry has moved past energy charts. “While those are a first step and useful, what is really beneficial to me as a consumer is not only seeing how much energy I use, it is telling me how I can be more green, or how I can save money. Tell me how you can do things that benefit my lifestyle. The work that we’re doing around segmentation and the work we’re doing with Simple Energy and others is making the experience a lot richer. We are trying to target feedback to the things people embrace.

“Green Button Connect Your Data is going to grow over time. It already has become the *de facto* industry standard for sharing energy data. We launched the PowerTools app, developed by Candi Controls. This is a suite of secure cloud-based apps that help consumers make smarter choices in their energy use habits to improve efficiency and lower costs. You’re going to see Green Button being applied to gas, then pricing. So, that’s where it’s going to go.

“When introducing new products, you definitely want to get input from your customers, but the problem with that is if they haven’t seen it, they don’t know what it is. So, we have been trying new and different things, but doing them at smaller scale. And every year we’re increasing the scale. Now we’re recommending ‘manage, act and save’ to all our tier three and four customers.

“We are moving beyond the three primary segments – residential, small and medium business, and larger business – by having a package of offerings for each that are slightly different. What we’re finding in the marketplace, is that residential customers are a bit like a small and medium business customers, but not all residential customers are the same. So, we will have sub-segments in each of the major categories.

“We want to do a couple things. We want to help customers save money on their energy bills and get energy efficiency savings. We also want to steer them towards demand response. And then educate them on rates. We’re trying to come up with holistic packages for each segment that might include different vendors and different applications, but be well-integrated from the end-user’s standpoint. Our goal is to become your trusted energy provider; where I help you through the steps of what rate should you be on, what packages, what equipment?

“We will definitely use segmentation to offer suggestions to them. Say, ‘hey, you seem to like this and this and this.’ We will use the analytics behind it to support the customer in the direction that we anticipate they want to go. And then hopefully learn from that. We might think somebody’s a simple green when they’re actually something else, but just by having the interaction with them will update the segmentation.

We’re also trying to be technology and vendor agnostic. We’re looking towards rates, technologies, and programs, working in concert together to improve the customer experience.”

Learning organizations recognize not all customers of a given category will respond to the same language or points of emphasis. Terms of art or organizational structures within utilities may not be equally meaningful to everyone. Partner organizations in the creation process can help utilities see the subtleties and build the right infrastructure.

Discussion Questions:

How are the internal groups with different responsibilities for customer programs learning about each other's activities?

How are overlaps and gaps identified and resolved?

What are the organizational, financial, and regulatory barriers to removing silos that adversely affect customer understanding?

How does your organization handle reorganizations? What might be ways to improve that process?

Transcend content and organizational silos

Pedro Villegas applies the brand promise of connection to the collaborative and team learning of community programs targeted to what have traditionally been known as hard-to-reach groups, “We have in our energy efficiency programs, a program for moderate income and above, and then we have a low income energy efficiency program. So that begets a different type of outreach to different groups. Those programs have been around for a long time.

He feels the reason why smart grid programs have been separate from energy efficiency is like the digital divide. “It’s hard to communicate certain things to certain audiences if you’re not speaking their language. It doesn’t happen on its own. You have to identify what’s important in that, what’s the value to those organizations and to those customers and those customer groups?”

“And you got to speak their language in a way that makes sense to them from their perspective. You got to empathize from where they are and what does this mean to them, not what does this mean to us in some silo in a bureaucratic utility. I don’t mean to say that silos are bad. Silos are very efficient. They’re a good place to be able to put together projects, to bring together expertise, to devote teams and the like.

“But silos have horizontal communication infrastructure or social infrastructure. At some point you bring in other people to help you talk about what’s going on in the silo to other constituents, to other customers even to other groups in your company.

We can have a silo out right now on one of the 69 smart grid projects that we have. And the engineers will come in, and they’ll tell me what it is. And I might struggle to understand what it is that they’re telling me. They’re all on the same page. But you got to have someone that can boil it down and translate it for a number of different audiences.”

The fundamental function of stakeholder relations has continued to be valued at SDG&E. The group has grown, it’s moved out of external affairs, and now collaborates with the residential services group, and their larger team. To cement the partnership Risa Baron has joined Villegas’ community relations group, “we’ve created a partnership and collaboration internally so that it’s not just my team playing this role.”

Villegas continues, “You have to build an appropriate infrastructure first internally to be able to change the mindset of how you reach out to folks. In some cases, you have to start with the premise that you don’t know how to do this and work with consultants and small community groups. You have to democratize those connections and build a sustainable team.

Collaborating with trusted community groups and partners allows utilities to proactively anticipate changing requirements and concerns of evolving communities while communicating more effectively.

Discussion Questions:

What is your organization doing to pull community-based organizations into your energy literacy educational efforts?

What metrics should be used to measure successful partner relationships?

Energy Solution Partners

SDG&E invites non-profits to submit formal proposals that are scored using five basic qualifications that indicate how effective they would be for the mix of audiences targeted.

- Scope of Outreach (40%)
- Demographics of Segment (20%)
- Timeline (10%)
- Publicity (20%)
- Comments (10%)

The proposal review process encourages grantees to make proactive commitments and see their efforts receive financial support.

At training workshops, participants share their ideas and recommendations about how to reach constituents. The interactive nature gives CBOs a better grasp of the issues and the ability to speak intelligently to diverse audiences.

Work through community-based partners

One of the most impressive ways the SDG&E shared vision of “Proactive, Mutually Beneficial, and Collaborative” has been implemented is the way the organization has grown their outreach in collaboration with local groups. The phased approach to build the program fully encompasses the principles of systems thinking, personal mastery, mental models, building shared vision, and team learning.

Risa Baron recalls the driving forces, “During our smart meter deployment, we experienced issues around radio frequency and how to best communicate with the environmental community. It came to us pretty early on that we needed partners. So we went to groups in the environmental community and asked if they would be interested in working with us to educate their communities about some of the issues around smart meter and the conservation benefits that will come with the new tools. We got them pretty excited about energy literacy in general.

“We did talk about radio frequency with them. We were very upfront, we were extremely transparent, and asked if they were concerned about RF? And the one thing they all said – we all have cell phones. And so, for us, it’s when we realized a really a good chunk of the environmental community didn’t share the fears we’d been hearing about.

“Initially, we partnered with 15 of them. It was a yearlong project where we did training, education. We explained to them what a kilowatt hour was. We explained to them our tiered rate structure, which in California is quite complex. And we really had great two-way conversations with them, where we learned about their issues, as well as them learning more about our industry. A lot of folks really don’t know what we do. And I think we take a lot of our stuff for granted. We have our own acronyms. We basically speak a foreign language to the majority of the community when it comes to energy. So we broke it all down and kept it really simple.

“We built these great relationships and recognized they were valuable partners. The next summer comes rolling around and San Onofre, the nuclear plant providing a significant share of our electricity was down. We had major concerns if we were going to have enough power for the summer. And we realized we needed to resurrect this group. And we got support from our California Public Utilities Commission to partner with community-based organizations and environmental groups and nonprofits.

Baron describes how she went back to the partners and said, “would you still be interested in working with us? They said absolutely. The basic messages were around conservation, using those smart meter tools, signing up for my account, starting to know how much energy you’re using at your house. And from that, we got a lot of really good traction on the social media front. A lot of them have very active Twitter accounts and Facebook posts, and they took the tools and information we gave them and were able to translate it into the way they communicate.”

The appreciation of the community groups is apparent in the words of Diane Hake, Director of the Julian Cuyamaca Resource Center, which

The 2013 RFP process began in April, included 80 non-profits, and offered grants ranging from \$1,000 to \$5,000.

The CBOs have taught SDG&E how to use social media far more effectively. Research measuring the results of the *Reduce Your Use* rebate program showed that people who were actively engaged and shared their contact preferences were able to deliver statistically significant load reductions on event days.

While some customers would provide that information directly to the utility, the partner organizations were able to encourage participation among constituents who would not be likely to reach out to SDG&E.

Discussion Questions:

Imagine how you would reach out to community partners in your area. How would you adjust your explanations of difficult scenarios?

oversees and educates the community emergency response team (CERT) in a remote rural area of San Diego county. “We have about 550 CERT members who have been trained in this national program for disaster preparedness. SDG&E’s partner programs have given us all kinds of information on how to save energy and how to buy a refrigerator, or find the programs that offer discounts. They teach people how to use the SDG&E information. I send out information on our webpage, on Facebook and on Twitter. But we really appreciate the insights that we get from them and the input they gather from our community out here.”

Several innovations set the SDG&E program apart from similar initiatives. They have a simple, formal grant process that recognizes the financial pressures that non-profits face and they respect the Community Based-Organization’s (CBOs) autonomy as independent entities.

Hake describes how they use the modest incremental funding. “We’ve been able to provide additional training supplies and materials, additional travel for outreach programs. It gives us money to pay our rent. Being a small organization, we have grants from the county supervisor, but they’re allocated to specific things, like communications and medical supplies. With the grants that we get from SDG&E, we can use it for whatever we need. So I use it for flyers and just promoting information. I post things all over the place.”

“We do a lot of events, too. We do the first aid booth and parking at a lot of the local events. So we always take out information that we’ve gotten from SDG&E, American Red Cross, and the Burn Institute because they all work together. They also shared a banner with us, so we can show that we are partnered with SDG&E.”

Baron addresses the autonomy issue. “We all have our branding guidelines and we really want to manage the message exactly. Well, you really can’t when you’re working with a partner. And you really need to just say, here’s the suggested language, but make it work for you. The one thing that was very interesting about that for us – it really changed our way of how we really worked with stakeholders, and trusting our partners to get the message out.

“Another nice add-on that came from all this is we partnered with some minority ethnic organizations, and they translated a lot of our materials into multiple languages. In San Diego, we have many ethnic organizations. East African, Asian – people from all over the world are coming to San Diego. And for them to translate for us is a huge deal.

“It was a wonderful program. Commissioner Catherine Sandoval was very supportive of our initiative. So we have decided we are going to keep this program moving forward. Now we have our next round of groups. We’re pretty much close to about 100 organizations.

“We’ve reached out to the social service organizations, so we can connect with them about our customer assistance programs, educating them on energy issues, and really have that two-way conversation.”

Transparency and accountability extends to partners as well as internal staff.

Community groups may have greater sophistication or access to a committed group of like-minded individuals when it comes to social media. Partnerships allow the utility to go to where people are already gathering online while they are learning to use new tools.

Discussion Questions:

It appears that outage support in the form of outbound texts, tweets, calls, and emails are a “killer app” for utilities. Discuss why you think this is or is not true.

Social media vehicles are most effective when there is a critical mass of participants engaging in a two-way exchange. Is this how your social media channels are working today? How are you taking advantage of other groups who may already have achieved this level of activity?

The transparency shown with employees and stakeholders extends to this group as well according to Baron. “There are times that we’ll call our partners in advance to say, hey, we want to give you a head’s up. This is going to be happening. And so we don’t want you to be blindsided. We want to explain it to you. Do any of you have questions? Let’s have the conversation. And I think it really has given us this whole new approach of having respectful exchanges with our customers and stakeholders.”

Learn to leverage social media

SDG&E has found, like many other utilities, that texts and Twitter are the optimum communication channels in major outages. When Internet server farms are down, email isn’t working, and phone coverage is sporadic, these methods are often the only effective option. During the major blackout of September 2011, SDG&E sent out over 130 messages during the course of 12 hours to keep their customers and stakeholders informed.

Caroline Winn says this channel has become standard operating procedure, “We have our contact center responding to Twitter about outages. ‘Hey, I don’t have any lights here. What’s going on?’ And we’ll tell them what the estimated restoration is or when we expect to know more.”

Tomas Urtasun of FocusCom Inc. (a San Diego PR and public affairs agency) has worked with Risa Baron to develop their robust and diverse community partner programs. Tomas describes how social media has informed their evolution, “We’ve been very receptive to different styles of communicating. The cornerstone of this entire effort has been to be adaptive to the way the partners communicate their messages. Some younger youth-based groups are more receptive to the online social media, while some of the older groups, like the Anza-Borrego community, are more comfortable with community meetings and posting physical flyers.

“In the early stages of the partner program, success was measured by impressions on social media— how many likes and how many Twitter followers. Those were correlated with how many postings overall and how many followers saw them, which could actually be measured.

“In 2012, over 300,000 people saw SDG&E messages across the summer. This was something that SDG&E had never done before. At that point, SDG&E didn’t have a Facebook page, though they had a Twitter feed for outage updates. “To gauge metrics even further we’ve created a hashtag #ESPSDGE. All the Energy Solution partners have been using that hashtag whenever they’re posting something, whether it is on Facebook or Twitter. That drops messages into a bucket so we can go in after the fact and look and see all of the people who posted.

“From there one can tabulate followers and the number of impressions. From a social media standpoint, from a ROI, that’s the most effective tool now. Our next step was to draw a correlation between how many Twitter followers and a drop in the load in last year. Of course, the effort is complements the other ways we build positive relationships with the partner groups.”

Cultural shifts take time and commitment from leadership and managers throughout the organization. Transparency and accountability are critical to effective collaboration.

Discussion Questions

What ways is your organization using social media to listen to customers?

What is your organization doing to build relationships throughout the community before you need them for a crisis?

Can people throughout an organization make significant changes without executive support?

The utility also uses social media as a way to listen to customers as both proactive research and responsive customer service. Planning for the upcoming rate increase has generated additional reasons to monitor what customers are saying 24 x 7. Caroline Winn explains how this helps them be prepared, “There was a protest that went on last week. We knew about it in advance because of social media. What’s really interesting is that customers are so blown away, in a positive way, when we respond to them immediately.

“I remember one customer who was extremely mad at us because we were having a planned outage. And she blasted it on Twitter. So we sent her a video about why we were doing the planned outage. And we told her exactly why we were doing it. She’s now our new friend.

“We have story after story about customers that we have been able to interact with and tell them why things are happening the way we are. We’re educating them about these rate increases, about why. This is a low-cost channel and a very effective one.

“For this pricing challenge, we went out, and we looked at who are the big influencers in San Diego who have huge networks of people. We are developing these relationships with them in advance so if a story blows up, we have people to go to who already have a foundation of knowledge.

“Another great example is we’re having mommy blogger conventions, because mommy bloggers are huge in San Diego. And so we brought them in. We did it last year. We did it again this year. And we’re sharing information, because they have a huge network of other mommies. When I talk about this, people laugh at me, but that’s been a surprisingly strong influencer to our customers in San Diego and a great way, again, to get that message out to just multiples of people.

SDG&E uses online panels of customers to provide us feedback all the time. “We wanted to be proactive in making sure that our customers understood that the price increase was going to come. We’ve not done that before in a wide scale way. We wrote a letter to explain it and probably started it months ago. It went through about 30,000 reviews. Everyone had their fingerprint in it, including my bosses. It was redlined. By the end of the review process, I could barely remember what I had in the beginning.

“So I said I want to test this letter that we have. I want to make sure that this letter is in English, and I want to make sure it’s exuding our brand – that I’m not talking in some corporate gibberish.

“The feedback that we got from our customer panel said the letter looks like a committee wrote it. It looks like you guys are hiding behind this. And I read it again and said, ‘they’re right. It went through so many iterations that even I don’t understand it any more.’ So we said, OK. Let’s tear this up. We got to start over.

“And we had one person write it. We took all the input that we got, and we rewrote this letter. Now, is it going to win an Academy Award? No. But it’s a great example of a way that we got very instant feedback. It was very real and honest and caused us to go back to the drawing board.

A learning mindset is effective when applied to technical, IT, and operational projects as well as customer outreach.

Discussion Questions:

Is there demand for rooftop solar in your area? How is the utility working with customers who see that as a desirable option?

What is the state of the market in your region? What could be done to improve or take advantage of the situation?

What are ways to encourage more employees and execs in all departments to listen and be aware of consumer concerns?

“This is where the ‘tone from the top’ meets reality. The CEO and president are very supportive of what we’re doing and the mission and making sure that that mission is being enacted on. So while they like to give me their input, they were very supportive about saying, ‘OK, we got this feedback. Let’s fix it.’ And so I’m very lucky that I have them as bosses. They understand that we’re going to do it differently and here’s what we’re going to do.”

Address Future Challenges

SDG&E has identified several challenges with its customers it still needs to tackle. The utility is ready to learn from its colleagues at other companies and management has set the expectation that learning from others’ experiences is as valued as homegrown solutions. Three of the compelling challenges facing SDG&E are:

#1 How do we integrate rooftop solar smoothly?

Ted Reguly notes, “We’ve got 1000 customers a month installing rooftop solar and it’s increasing every month. We need to fix the rate disparity. They’re doing that because of artificial price signals. It’s a big shift of cost. So, we need to address that and try to get it closer to a fair market. We really need to work to be their trusted energy provider. We need to provide safe, reliable electric service at a reasonable cost so they don’t go someplace else, and if they really want rooftop solar that should be an option that we should be able to provide them.”

#2 Can we evolve DR to be a more efficient and automated resource?

Reguly is also very intrigued with demand response, energy efficiency and what’s going on at the California ISO to take demand response from an emergency-day-ahead-very-manual process to a more automated process and tying it together with rates and energy efficiency. “We’re going to have a capacity market. We’re going to start bidding into it next summer. The market is developing. The technology is developing. The rates are starting to be rolled out. It’s going to be an interesting time.”

#3 How can we further improve connections with consumers?

Caroline Winn has been contemplating another challenge—how to get more SDG&E employees connecting directly with consumers. “One of the things I love about my job is that I get to talk to lots of different people and get feedback. I believe feedback is how we’re able to change our products and offerings for the future.

“I always tell my peers that I’m not the only voice of the customer. The customers are our business. We need to make sure that we are a customer-centric organization, not just in my organization, but in the electric side or in the regulatory side, in the IT side. I let them know the things that we’re doing, so it’s not just my department focusing on the customer. If they hear first-hand, it will start affecting the way that they run their organizations as opposed to me just telling them about the latest research. That is something I’ve been thinking about and want to try.”

Observations of the Author

The objective of this narrative case study is to allow readers to decide for themselves what lessons learned at SDG&E might have applicability to them in their work. Readers are encouraged to examine additional information available on the SDG&E website and other resources noted below.

The following ten principles exemplified by SDG&E echo themes discussed at a July 2013 Customer Engagement Workshop and Report as well as the *Voices of Experience Guide* published by the Department of Energy:

1. The executive team is authentically committed to creating an open, transparent learning organization. Leadership support and the “tone from the top” must be authentic.
2. Leadership means providing adequate resources to the teams and programs executing a clear vision. Ideally, that long-term vision is shared with local regulators or oversight boards. Outreach efforts that include Commissioners and staff makes that synergy much more likely.
3. Interactive exchanges, where all stakeholders and customers see the utility is listening to them, become part of the company’s DNA.
4. Employees, customers and stakeholders will be more likely to support a goal, vision, program or investment if they feel like they have had input into and ownership of its design.
5. There are a number of co-design or human-centered design methodologies that have proven to be effective in many industries. Innovation will only occur if the utility and regulators are willing to try new approaches.
6. Community partners make a tremendous difference and are worth the time, effort, and investment to cultivate long-term relationships. Building trust and collaborative communication efforts require a transparent and two-way process. The approach is also effective with local officials, press, and media.
7. Executing on the deeper meaning of the brand promise to meet and exceed customer expectations is more valued by the public than strict adherence to branding style guidelines. Empowering educated partners to personalize messaging and graphics for their constituencies yields greater positive payback for the utility than tight controls.
8. Many people want help figuring out the best options for their situation. Proactive customer support staff, empowered field personnel, independent energy “coaches” or “personal energy trainers” are all good choices for 1:1 interactions. Conversations are an effective way to overcome fears induced by misinformation or to identify people who would be better served by receiving their bills without additional helpful suggestions.
9. Communicate with customers where people already gather. This applies whether one is talking about social media, community events, common interest groups, or membership organizations.
10. People will adopt behavior changes or invest in automation because those actions serve THEIR priorities, not the utilities.’ This might be to help the planet, keep overall costs down, improve energy independence, or reduce their own bill. Friends, families, and neighbors who share their values will have significant influence.

Other relevant case studies and articles about SDG&E

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http://www.smartgrid.gov/document/nv_energy_smart_meter_deployment_handbook

San Diego Gas & Electric: The Smart Grid’s Leading Edge, Authors: Katie R. Thomas, Kevin B. Jones, Institute for Energy and the Environment, Vermont Law School, April 2013

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Voices of Experience: Insights on Smart Grid Customer Engagement, U.S. Department of Energy, Office of Electricity and Energy Reliability, July 2013

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Author’s Bio

Judith Schwartz is an entrepreneur, marketing strategist, and communications professional on the forefront of sustainability issues, the Smart Grid, alternative energy, and the digital home.

Her Silicon Valley-based firm, To the Point, designs human-centered strategies, conducts research and meta-analysis, creates narratives and messaging, facilitates cross-stakeholder conversations, and develops communications and outreach prototypes. <http://www.tothept.com>