

SmartPricing Options Pilot Program At A Glance

In order to test the effects of dynamic pricing and enabling smart grid technologies on peak load shaving, energy conservation, and customer satisfaction, SMUD administered the SmartPricing Options Pilot Program throughout the summers of 2012 and 2013.

Through three dynamic rate plans – standard TOU, Critical Peak Pricing, & a Combination of Critical Peak Pricing & TOU – the goal of the SmartPricing Options Pilot Program was to reduce peak demand from 4 PM – 7PM.

Program Statistics

- Approximately 12,000 residents participated in the SmartPricing Options Pilot Program
- Dynamic pricing showed load reductions of up to 25% during hours of peak demand
- Following the SmartPricing Options Pilot Program, more than 95% of participants reported that they were satisfied with the new pricing plans.

Background

Targeting a shift in peak summer demand between 4:00 PM and 7:00 PM June through September, through the SmartPricing Pilot SMUD offered three separate pricing plans.

- **Time of Use Plan (TOU):** Participants were charged an on-peak price of \$0.27/kWh between the hours of 4:00 PM and 7:00 PM on weekdays, excluding holidays. For all other hours, participants were charged \$0.085/kWh for the first 700 kWh in each billing period, with any additional usage billed at \$0.166/kWh.
- **Critical Peak Pricing (CPP) Plan:** Participants were charged a price of \$0.75/kWh during CPP event hours, when temperatures and SMUD's system loads were expected to be unusually high. SMUD planned to call 12 CPP events each year, between the hours of 4 PM and 7 PM on weekdays, excluding holidays. Customers were notified 24 hours in advance of an event day. For all other hours, participants were charged \$0.085/kWh for the first 700 kWh in each billing period, with any additional usage billed at \$0.167/kWh.
- **Time of Use-Critical Peak Pricing Rate Plan:** The third rate combined the pricing structures of the TOU and CPP rate options. The TOU-CPP Rate Plan offered an off-peak electricity rate at \$0.072/kWh for the first 700 kWh in each billing period, with any additional off-peak usage billed at \$0.141/kWh. Participants are charged an on-peak price of \$0.27/kWh between the hours of 4 PM and 7 PM on weekdays, excluding holidays. A CPP price of \$0.75/kWh is charged to participants between the hours of 4 PM and 7 PM on CPP event days, of which SMUD planned to be called 12 times during the summer months. Those 12 days were the same as those called for the CPP-only rate. The TOU-CPP rate was not offered on an opt-in basis.

FACT: When given the opportunity to choose, SMUD discovered that customers favored the TOU plan over the CPP plan by a factor of 2:1, exhibiting a mentality that chooses to limit financial risk.



Sacramento Municipal Utility District: SmartPricing Options Pilot Program

For over six decades, the Sacramento Municipal Utility District (SMUD) has worked to deliver reliable electricity at an affordable rate to more than 1.46 million residents across a 900-square-mile territory that includes California's capital city, Sacramento County and a small portion of Placer County. As part of the American Recovery and Reinvestment Act, SMUD was awarded a \$127M grant from the U.S. Department of Energy (DOE) toward a \$308M smart grid project. Building on this grant, and participating in the DOE Consumer Behavior Studies, SMUD began the **SmartPricing Options** Pilot Program in order to test the effects of dynamic pricing and enabling smart grid technologies on peak load shaving, energy conservation, and customer satisfaction. SMUD administered the SmartPricing Options Pilot throughout the summers of 2012 and 2013. SMUD found that **time-of-use** rates showed significant reductions in energy usage during peak load periods resulting in increased customer savings and continued satisfaction.

SMUD SmartPricing Options let you take control of your summer electricity costs.

SMUD is offering SmartPricing Options to a randomly selected group of SMUD customers for a limited time. This is part of a two-year pricing pilot for the summers of 2012 and 2013. If your home is selected to participate, you'll be among the first to take advantage of new pricing and tools that will let you take control of your summer electricity bills.

Enrolling in this plan will allow you to manage your summer electricity use and help the environment if you can reduce your electricity use between the peak hours of 4:00 p.m. to 7:00 p.m. Using less electricity during peak hours, shifting the time you use electricity (like doing laundry after 7:00 p.m.), or reducing your use overall can help you save money on your bill.

It's good for the environment too!

During the summer – especially during weekday late afternoon and evening hours – the demand for electricity soars. To meet this demand, we often have to buy electricity from very expensive and less environmentally friendly sources. The high costs are absorbed by all of us but the environmental costs affect the entire planet. By effectively managing your electricity usage during peak hours, we can avoid purchasing less desirable forms of energy.

To find out if your home was randomly selected to participate in this pilot and to enroll, log in to My Account at smud.org or call toll-free 1-855-736-7655.

SMUD
smud.org

FACT: SMUD's models indicated that increasing critical peak prices by roughly 60% over standard price levels (from \$0.75/kWh to \$1.20/kWh) would increase the percent load reduction during the peak period by roughly 20% for both opt-in and default CPP pricing plans. For TOU pricing plans, a 55% increase in peak period prices, all other things equal, would increase the percent load reduction by 30 to 40%.

Customer Recruitment & Choice

SMUD examined two recruitment strategies for the SmartPricing Options Pilot Program; opt-in and default enrollment. Customers chosen for automatic inclusion (default enrollment) in the pilot program were randomly placed on either the TOU, CPP or TOU-CPP pricing plans and were instructed to contact SMUD if they did not wish to participate. In terms of giving customers ample time to opt-out of the pilot program, customers were initially notified of the change in their rate in early April and a follow-up notification occurred in early May. Welcome packets were sent to all customers in late May, just prior to the new rates going into effect in June.



Additionally, SMUD offered an opt-in option for customers as well. Customers were solicited through a multi-faceted marketing campaign that involved direct mail, brochures, print ads, web-based marketing, SMUD website announcements, outbound calling and door hangers.



Marketing, Messaging, and Retention Strategies

SMUD's marketing strategy included education and retention components and leveraged multiple channels of communication with customers. The campaigns focused on four specific messages highlighting the benefits of participating in the SmartPricing Options pricing plan.

1. Get a discount on your electricity during off-peak hours
2. Take control of your summer electricity costs
3. Manage your energy use
4. Contribute to a cleaner environment

Materials and messaging were developed based on findings from market research efforts that continued throughout the planning and implementation periods. Focus group research indicated that customers preferred images and content that were local and reflected real-life, residential activities. SMUD's marketing strategy included several dedicated photo shoots to capture the intention and feeling of the SmartPricing Options Pilot Program.

For the SmartPricing Options Pilot Program, SMUD's marketing team created the most robust retention campaign that SMUD has deployed to date. The retention campaign focused on engaging customers through various channels, including social networks, online games, infographics, email, direct mail, YouTube videos, and dedicated websites loaded with information and interactive graphics on energy use.

Additionally, throughout recruitment documents and program materials, it was found that customers reacted more favorably to soft wording that implies a benefit to themselves over the utility. SMUD was able to test various combinations of wording to determine what specific phrases and statements customers respond to or choose to ignore.

Assistive Technologies

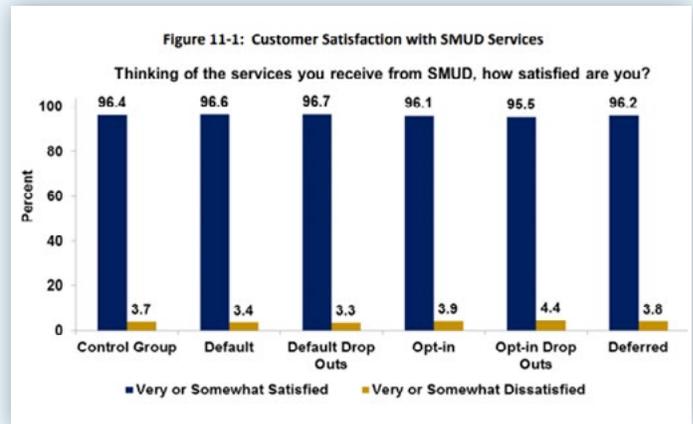
As part of the SmartPricing Options pilot program, SMUD offered customers a free in-home display (IHD) that would allow them to view their energy usage in real time. Ultimately, SMUD found that only a low number of residents actually took advantage of the IHD. More than half of the customers who chose to receive an IHD never actually went as far as to connect the device. Among customers who connect their IHD, it was found that they utilized the device for a short period of time, determined which activities / electronics used the largest amounts of electricity, and then discontinued use.



Learning from this, SMUD is developing a borrowing program that will allow customers to use an IHD for two weeks at a time. The intended goal is to allow customers to successfully develop an understanding of what is using energy throughout their home without having to permanently equip each customer with a costly IHD. Making these devices available for check out from SMUD, just like a book at a library, will help achieve similar results at a fraction of the cost.

Customer Reactions and Satisfaction

Following the two year SmartPricing Options Pilot Program, SMUD conducted a survey among all customers and program participants to gauge their satisfaction with the new rate plans and services against the satisfaction of customers not in the Pilot Program. Survey results showed that satisfaction ratings were nearly identical for survey respondents not in the Pilot Program, respondents in the new default pricing plans and respondents in the opt-in pricing plans. This means that customers who were migrated onto a new pricing plan did not demonstrate a reduction in customer satisfaction relative to those in the opt-in pricing plans or customers not in the Pilot Program.



Switching to Standard Time of Use Rates by 2018

Having documented successful shifts in peak demand and load shifting through the SmartPricing Options Pilot Program, by 2018 SMUD plans to migrate all of their customers to a TOU rate plan.

As of January 2016 SMUD has made an optional time-of-use rate available to a relatively small group of residential customers. This group includes:

- About three-hundred customers who participated in SMUD's original residential time-of-use rates.
- Customers who own or lease solar systems on their homes.
- Customers who own or lease plug-in electric vehicles.

Throughout 2017, other residential customers will be eligible to take advantage of the new, optional TOU rate while SMUD's Board of Directors has declared its intention to make TOU the standard rate for residential customers starting in 2018. By slowly migrating customers to the TOU rate plan over the next two years, SMUD intends to further refine their customer engagement strategies as well as troubleshoot internal billing and management systems that may be impacted by the change.



SMUD has been introducing new educational materials, such as this video pictured above, designed to inform customers about the benefits of dynamic pricing.

Lessons Learned from the SmartPricing Options Pilot Program

- Learned that messaging for CPP events is much more complex and requires more resources than was originally planned.
- Determined that the accuracy of messaging was critical since it involved direct contact with customers and involved a call to action. If messaging was unclear, it caused customer confusion and resulted in increased call volumes to the contact center.
- Customers were interested not only in their own savings, but also in how much everyone in their community saved (e.g., they cared about the social benefits of the program)
- Higher than expected enrollment rates were the result of marketing materials that emphasized pricing plan specific information.