

From: Dietz, Sidney
Sent: 12/29/2012 12:31:50 AM
To: Cherry, Brian K (/O=PG&E/OU=CORPORATE/CN=RECIPIENTS/CN=BKC7);
edward.randolph@cpuc.ca.gov (edward.randolph@cpuc.ca.gov)
Cc: Allen, Meredith (/O=PG&E/OU=Corporate/cn=Recipients/cn=MEAe)
Bcc:
Subject: Re: smart thermostat pilot
Will do.

Do I seem terse? Blame the thumb keyboard.

From: Cherry, Brian K
Sent: Friday, December 28, 2012 08:21 PM
To: Randolph, Edward F. <edward.randolph@cpuc.ca.gov>
Cc: Allen, Meredith; Dietz, Sidney
Subject: Re: smart thermostat pilot

Absolutely. Sid - get Ed and myself signed up for this c

Brian K. Cherry
PG&E Company
VP, Regulatory Relations
77 Beale Street
San Francisco, CA. 94105
(415) 973-4977

On Dec 28, 2012, at 5:48 PM, "Randolph, Edward F." <edward.randolph@cpuc.ca.gov> wrote:

Any chance I can be added to the pilot below?

Giga Om - Early results: PG&E customers like controlling thermostats with iPhones

By [Katie Fehrenbacher](#), December 21

According to early results of PG&E's trial with smart thermostats from Honeywell and Opower, customers really like controlling the thermostat remotely with their iPhones. Remote control could prove to be one of the first smart grid applications that is a clear benefit to consumers

As we reported earlier this year, PG&E is the first utility that has been piloting the smart thermostat collaboration between thermostat giant Honeywell and energy software startup Opower. And some early results (collected by PG&E) are in: customers like using the smart thermostats and particularly like being able to remotely control the thermostat using their iPhone. However there were some issues in the trial's recruitment and installation processes.

Remote control of the smart thermostat could prove to be one of the first smart grid applications that is a clear benefit to consumers. One of the major problems with smart meters is that consumers haven't really seen the direct benefits (beyond savings) of having the smart meter installed at their homes — a lot of the benefits of smart meters are actually for the utility. But remote control of a thermostat is a service that even companies like Comcast and Verizon are looking to sell to their customers.

For the PG&E trial it's still early days. So far the pilot program is pretty small, and PG&E is still recruiting customers to it. According to a report issued last week, there are currently 888 customers involved in the smart thermostat trial, but only 276 of those actually had one of the thermostats installed. 421 of the group were chosen to get a smart thermostat installed (the rest were in the control group that didn't get thermostats), but 145 of those homes didn't have a successful installation for whatever reason.

The main reason that the thermostat installation didn't work even for customers that had been chosen, was that the homes were actually found to be ineligible for the program (say, because of a faulty or incompatible HVAC system, or lack of a broadband connection). But often times that ineligibility wasn't determined until the installer was at the home, which is inefficient. The report says:

The number of treatment group customers without a thermostat installed is a problem that could compromise the precision of energy savings estimates when the impact evaluation is conducted once the trial is fully enrolled.

So for future recruitment the program needs to be tweaked to evaluate if the home is eligible before the installer gets there.

PG&E is looking for more pilot participants for the trial and eventually wants to have 500 homes with the thermostats installed. Future participants need to own their homes, have central heating and cooling, not move for at least a year, have a broadband connection, and live in certain zip codes like in Fresno and Bakersfield.

PG&E isn't the only utility trialling smart thermostats. Texas energy service provider Reliant is offering smart thermostat services from two Silicon Valley startups Nest and EcoFactor. Startup EnergyHub is also working with cooperative utilities Gibson Electric Membership Corporation and Mid-South Synergy — the EnergyHub service, called Mercury, reduces customers' heating and cooling consumption at times of peak demand.

One of the earliest utilities to tap smart thermostats for energy management was Nevada utility NV Energy. NV Energy is providing 50,000 customers with a home energy dashboard from Control4 and a programmable thermostat. Another 50,000 are supposed to be signed up down the road.

Utilities can use smart thermostats to collectively and remotely manage home energy consumption at peak times. They can also just use the thermostats for energy efficiency, and for having customers cut their energy bills. Earlier this year I wrote a report on the battle for the smart thermostat, GigaOM Pro (subscription required). Increasingly energy software startups like Opower and Nest are competing over the home smart thermostat.

PG&E is expecting the smart thermostat service to lower its customers' energy consumption by 5 percent, and potentially by more for customers that use gas for heating and cooling. Update: The Honeywell/Opower thermostat can specifically reduce a home's heating and cooling by 15 to 25 percent. In comparison Nest says its thermostats can cut 20 to 30 percent of a homes' heating and cooling energy consumption. So they are about the same in terms of their energy reduction potential. The software is a little bit different though, in that Opower's thermostat software doesn't use learning algorithms.

Edward Randolph | Director, Energy Division
California Public Utilities Commission
505 Van Ness Avenue, Room 4004
San Francisco, CA, 94102
415-703-2083 | edward.randolph@cpuc.ca.gov