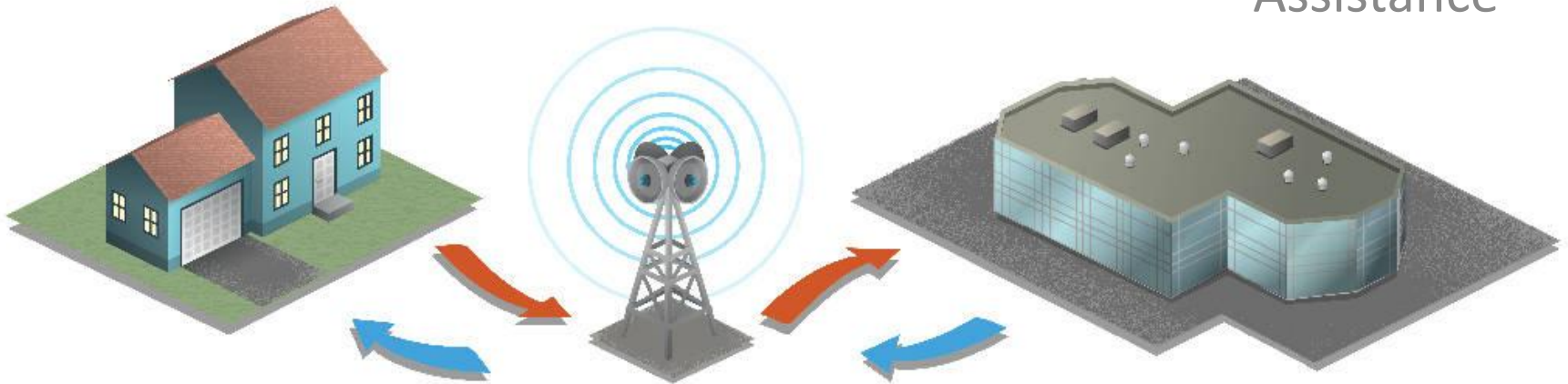


Successful Strategies for Consumer Adoption in Smart Meter Deployment

July, 2011

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Director – Customer Programs and Assistance



Be Proactive	Anticipate stakeholder needs and develop solutions to meet those needs.
Be Collaborative	Work with stakeholders to design and improve the customer experience, products and services.
Work Toward Mutually Beneficial Outcomes	Continually seek and incorporate feedback from all stakeholders.
Be Responsive	Respond promptly and transparently to all inquiries.
Be Nimble	Expect and accommodate continual process and communication improvements.

- As of June 1, 2011 approximately 96% of all smart meter installations completed
 - Primarily residential and small commercial customers
- Less than 3,000 customer inquiries (complaints/claims) out of over 2 million installations
 - .15% of total installs
 - Individualized and personal response to every inquiry
 - 58 customers have refused installation because of medical or radio frequency (RF) concerns



- Billing Accuracy
- Health: Radio Frequency
- Privacy & Security: Big Brother
- Lack of value to customers: only the utility benefits

Radio Frequency Comparisons

Smart METER

- Meters transmit data, on average, less than one minute per day in short random bursts

Source	Radio Frequency Output Compared to standing two feet from a Smart Meter
Standing in front of an active microwave oven, two inches from door	550 times more
Holding a live walkie-talkie at your head	55 – 4,600 times more ¹
Holding an active cell phone at your head	3.3 – 1,100 times more
Using a laptop computer	1.1 – 2.2 times more
Sitting in a Wi-Fi cyber cafe	1.1 – 2.2 times more

Source: Richard Tell Associates

¹ Cell phones are designed to reduce RF output power to the minimum required for reliable communication, but may reach peak power output when signal strength is limited.

- Customer privacy must be a top priority for both Utilities and Regulators
- In California, SB 1476 became law 01-01-2011 (PUC sec. 8380)
 - Utilities shall not share consumption data without customer consent
 - Utilities shall not sell consumption data
 - Utilities must use “reasonable security procedures & practices” to protect customer consumption data
 - Customers have the option to view data without being required to share with 3rd party

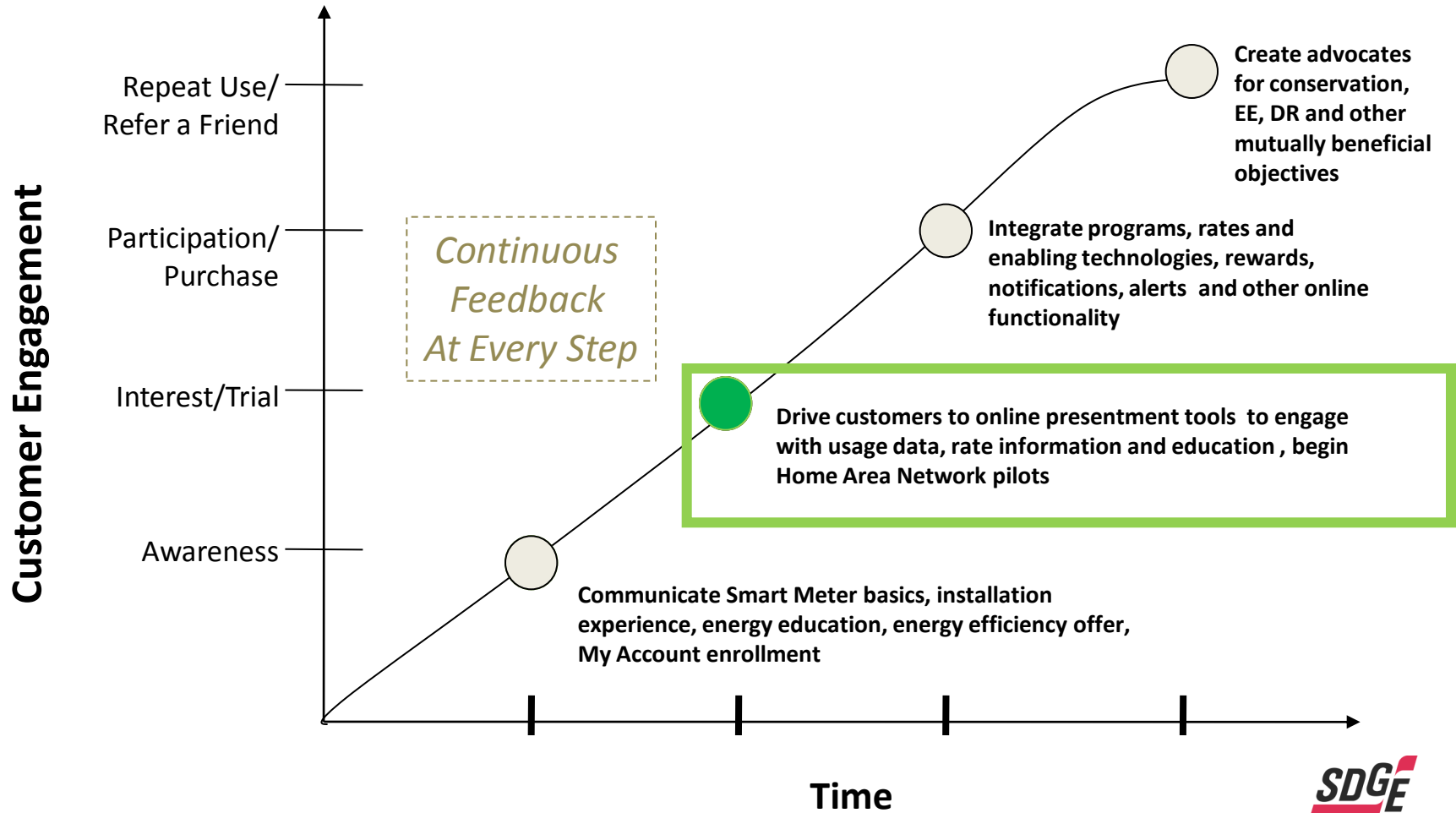
- PG&E was ordered to file an application to offer those customers that do not want a smart meter the choice to opt out
- UCAN filed an application with the CPUC to have SDG&E offer customers a choice to opt out
- Pre-hearing conference held on May 6th at CPUC
 - SDG&E will provide what an opt-out offer may look like, advise how long it would take to provide, and cost to customers and cost recovery mechanism.
 - SDG&E will hold a workshop by end of July seeking input
- Concerns about an Opt Out option
 - SDG&E has been mandated to install Smart Meters for all customers
 - Research does not support medical claims
 - It would be very costly
 - Loss in benefits by both customer and company

It's more than changing a meter ... it's re-creating a relationship

Smart METER

- Smart Meters are the catalyst for monumental change in our industry and with our customers
- Smart Meter offers SDG&E the opportunity to touch every customer and begin to redefine the utility/customer relationship
- Smart Meters are creating a new paradigm where utilities must engage customers in more meaningful ways to maximize benefits
- Smart Meters promise customers greater choice, control, convenience, savings

Engaging Customers & Delivering Value Smart METER



- A platform that supports two-way communication between to the utility and digital devices in the consumer's home or business
- Utility to Consumer communication:
 - Near-real time energy use & price information
 - Demand response & energy management signals
 - Short messages
- Consumer to Utility communication:
 - Acknowledgement of signal receipt & response to signal
- Access to information & feedback more frequently can help customers make decisions that will lead to energy and cost savings
- Automation to support energy savings & lifestyle: rate options, energy-efficiency & conservation

Connected Home of the Future

Smart METER

Energy Storage | ○

Devices that maintain reliability of the electric grid by storing energy for use at a later time.

HVAC | ●

Communicates with your thermostat to efficiently adjust the temperature based on your home needs.

SmartMeter | ●

An advanced meter which communicates via Zigbee® signal with smart devices in the home.

Smart Appliances | ●

Appliances that have been modernized to monitor and automatically adjust how they operate according to your preferences.

Programmable Communicating Thermostat | ●

A thermostat that connects to your Smart Meter which, based on personal settings, manages your heating and cooling costs.

Solar Panel | ●

An array of panels that absorb sunlight to generate electricity for your home.

Interactive User Portal | ●

An online tool that allows consumers to view and manage their energy consumption in real time from a computer. It works in conjunction with a gateway to receive updates through the internet and allows you to control your smart devices remotely.

Gateway | ●

A device that allows Smart Appliances in the consumer's home to communicate with a Smart Meter owned by the utility.

In Home Energy Display | ●

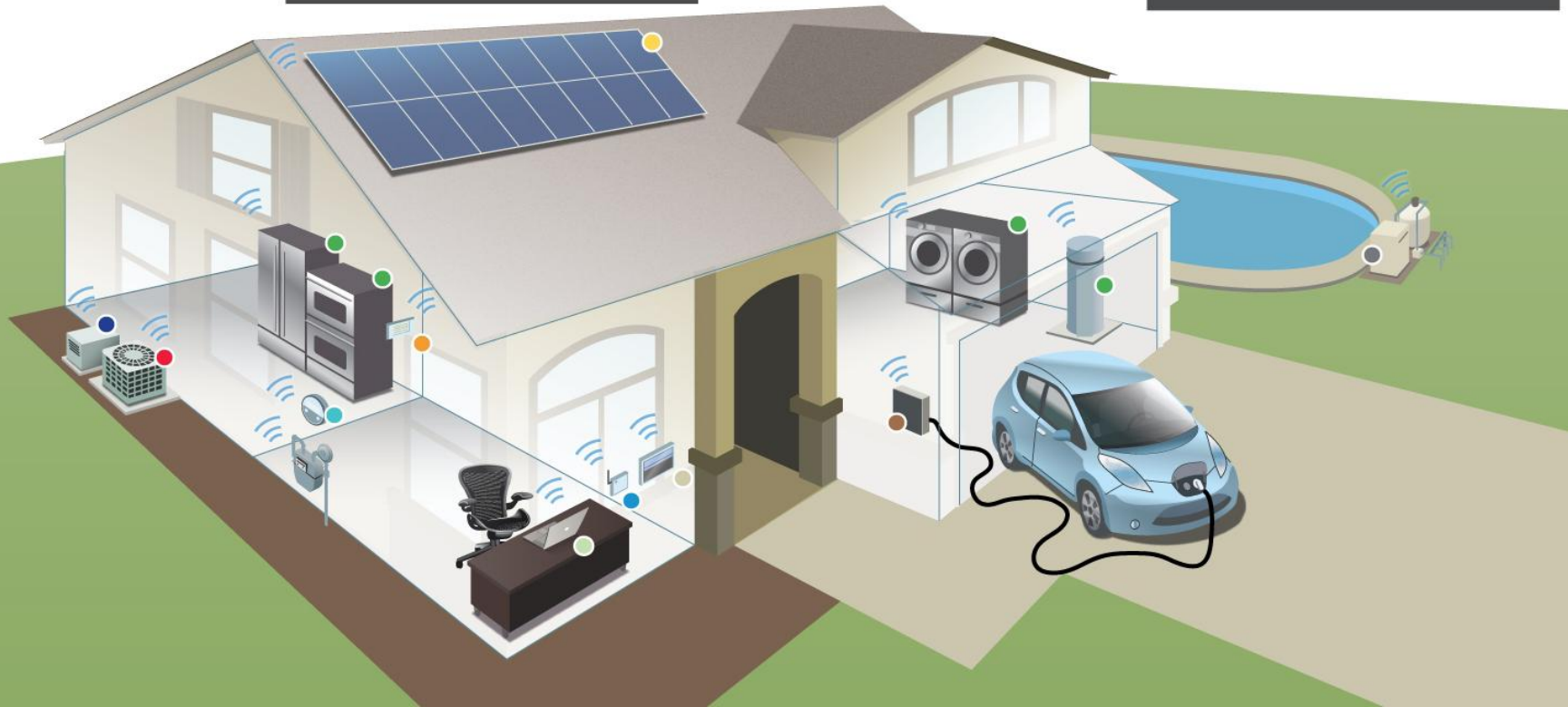
A device that connects to a Smart Meter which provides real-time feedback on energy use and costs.

Electric Vehicle Charging Station | ●

Equipment that charges an electric vehicle. When connected to the home area network, it will allow a user to program settings through the internet to charge their car.

Pool Pump | ○

When connected to the home area network, the pump can be controlled through the internet, allowing users to program settings remotely.



In Home Display Overview

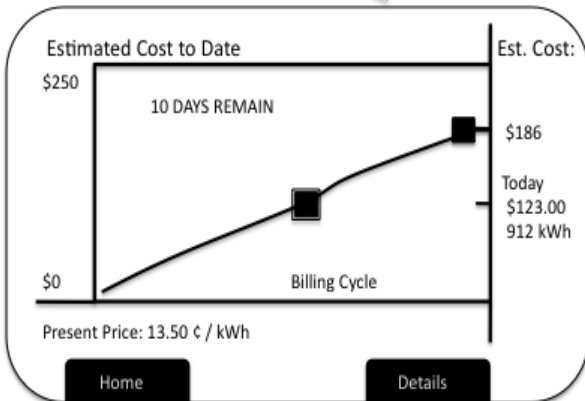
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Displays current household energy use, in both kWh and dollars per hour

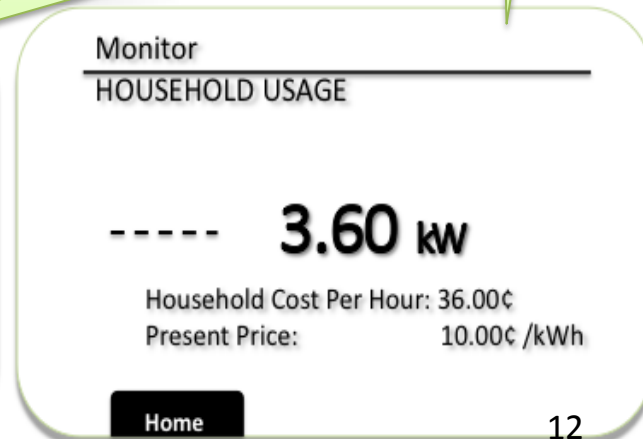


See the cost of electricity in near real-time

Track monthly bills with up-to-date billing information and an estimated end of month bill



Receive messages

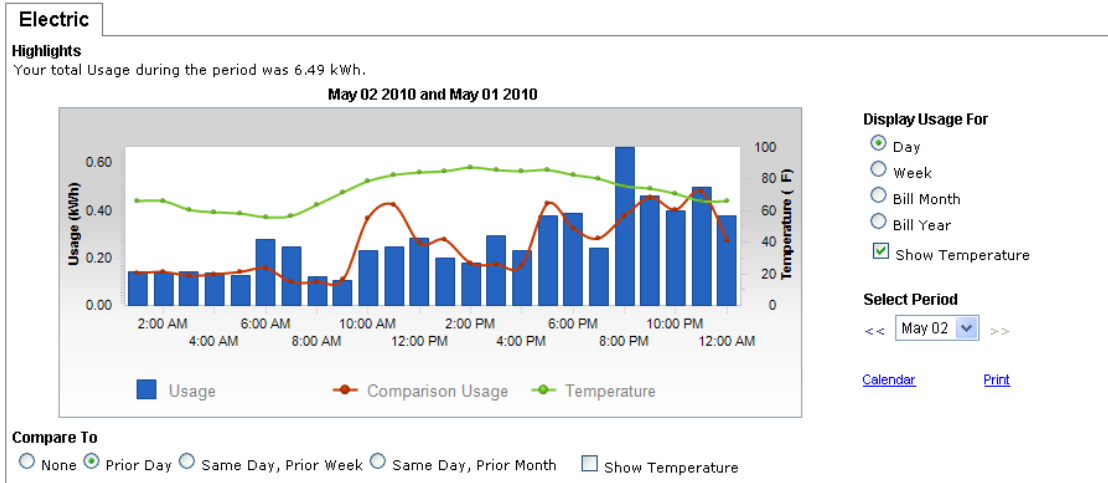


- *“This was a wonderful opportunity. ...My daily usage had gone from under \$2.00 a day to over \$5.00. **By using the display, I was able to track the problem and rectify it quickly.**”*
- *“It looks cool on my wall and is **a conversation piece as well as a conservation piece.**”*
- *“I love comparing the day to day energy usage and checking to see if I'm on-track for the end of the month bill.”*
- Energy Savings – Directionally Positive

My Energy Charts

SDG&E's Online Energy Tool

Smart METER



- Provides residential customers online access to electric interval usage data and user education via SDG&E's My Account
- Functionality includes:
 - Multiple views (daily, weekly, monthly, yearly, bill cycle and calendar view)
 - Temperature overlay option
 - Usage comparison options for prior day, same day prior week, same day prior month
 - “About your Charts” tutorials and general information related to customer rates and programs



1. Requirement. . . Requirements. . . Requirements
2. Establish and communicate global assumptions
3. Keep a close eye out for resource constraints
4. Almost every component of an AMI solution is new and evolving. . . . plan carefully
5. Align with your vendor's product roadmap
6. Communicate . . . Communicate . . .communicate

- Named “**Smartest Utility in the in Nation**” 2nd year in a row by *Intelligent Utility Magazine* and *IDC Energy Insights* – August 2009 and 2010
- Recognition of being a “**gold standard**” utility by CPUC Commissioner Ryan – September 2010
- Awarded “**Best in Quality**” by *Chartwell, Inc.* for Customer Service – September 2010
- Awarded “**Customer Service Excellence**” by *Metering Billing/MDM America* – April 2011

Thank You

Smart METER

- Questions?
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