The Green Button Initiative

Christopher Irwin

DOE Lead – Federal Green Button Team

US Department of Energy – Office of Electricity Delivery and Energy Reliability

What is Green Button?

Common-sense idea that electricity customers should be able to download their own energy usage information in a consumer- and computer-friendly format.

Administration call to action—but delivered by industry, using consensus industry standards

Sept 2011 – Challenge to Industry

January 2012 –California launch

March, May, June and October 2012: New commitments

An overnight success – years in the making. Based on published NAESB standards created by utilities and industry, and accelerated by the Smart Grid Interoperability Panel, an initiative of the National Institute of Standards and Technology (NIST)

Adoption by utilities has been swift because the standards supporting Green Button data are flexible and easily available, and the customer can quickly recognize the value of the offering.

CURRENTS **BRIEF**
A weekly recap from the editor of PGECurrents.com
PG&E

CURRENTS WEEK IN REVIEW: OCTOBER 3-7, 2011

WHITE HOUSE CTO VISITS, PROMOTES "GREEN BUTTON" FOR ENERGY INFO

By the end of 2011, California's three largest utilities will develop standard personalized energy usage reports that customers can download with the click of a green button. If successful, the collaboration would lead to innovative uses for customers' energy information. The agreement was made this week during a PG&E-hosted meeting with White House Chief Technology Officer Aneesh Chopra (above right with PG&E CIO Karen Austin and Chris Irwin of the Department of Energy), who suggested the idea based on a U.S. Department of Veterans Affairs project involving health care information. David Kligman covered this story for Currents.

Utilities and electricity suppliers in 32 states and DC across various regulatory regimes have committed to provide 36 million US homes and businesses with Green Button data, over 16 million of which already have access…

Green Button commitments

- American Electric Power (live in Texas!)
- Austin Energy
- Baltimore Gas & Electric (live!)
- Bangor Hydro Electric
- CenterPoint Energy (live!)
- Central Maine Power
- Chattanooga EPB
- Commonwealth Edison
- Consolidated Edison NY
- Glendale Water and Power
- JEA
- Kootenai Electric Cooperative
- National Grid
- Northeast Utilities:
  - Connecticut Light and Power
  - Western Mass. Electric Co.
  - New Hampshire Public Service Co.
- NSTAR (live!)
- Oncor (live!)
- Pacific Power
- Pacific Gas and Electric (live!)
- PECO
- PEPCO Holdings (live!)
- Portland General Electric
- PPL Electric Utilities
- Reliant (live!)
- Rocky Mountain Power
- Sawnee Electric Membership Corp.
- SDG&E (live!)
- Southern California Edison (live!)
- Texas New Mexico Power (live!)
- TXU Energy (live!)
- The United Illuminating Company
- Virginia Dominion Power
- Efficiency Vermont*

*Service Provider

Map of Green Button Commitments

Green Button
Connect
My Data

launched October 1st

Helping to spur new innovation through the application of the Green Button data

Through the Energy Data Initiative, an Administration-wide effort to spur entrepreneurship on open government and smart disclosure data, there are several industry-led teams developing prototypes of new Green Button-oriented platforms, products, services and applications.

Unlocking Power of Energy Data

The Apps for Energy contest spurred over 50 new apps built around the Green Button data standard:

http://appsforenergy.challenge.gov/

Also working with US Federal agencies to identify tools & applications that could be enabled with Green Button

Green Button to spur innovation in new areas

Insight: entrepreneur-created web portals analyze energy usage and provide actionable tips;

Heating and Cooling: customized heating and cooling activities for savings and comfort;

Education: community and student energy efficiency competitions;

Retrofits: improved decision-support tools to facilitate energy efficiency retrofits;

Verification: measurement of energy efficiency investments;

Real Estate: provide energy costs for tenants and/or new home purchasers; and

Solar: optimize the size and cost-effectiveness of rooftop solar panels.

What people are saying...

It may finally give consumers a reason to care about the smart grid.
        – SF Chronicle

Solar companies are also eager for consumer data because understanding a homeowner's electricity use is key to the sales process.
        – San Jose Mercury News

The project is important because it is a broad-based plan to take energy data and standardize the format of it, open it up (while also providing security) and make it readily available to consumers.
        – Gigaom

I'm a big fan of simplicity and open standards to unleash a lot of innovation....I'm going to reach out to ConEd, the utility in NYC, and find out when they are going to add Green Button support to their consumers data. I hope it is soon.
        – Fred Wilson (Venture Capitalist)

Among those in attendance was software developer Joss Scholten of Austin, Texas, who created an app in 12 hours using PG&E's green button. The app, which he displayed on his iPad, shows hourly, monthly and daily electric usage in a customer-friendly display.
        – PG&E Currents

Privacy and data access in the energy utility sector

- Typical issues include customer consent, uses of data, contract terms, aggregation, and cost recovery

- Current efforts underway

  - the Federal Smart Grid Task Force (led by DOE) is convening multiple stakeholders in a collaborative process to potentially develop a code of conduct for handling consumer utility energy data
  - Future of Privacy Forum: TRUSTe Smart Grid Privacy Seal for Third Parties
  - North American Energy Standards Board (NAESB) REQ22 Third Party Access to Smart-Meter-based Information
  - NAESB REQ21 Energy Service Provider Interface ESPI, on which Green Button is based

- Variety of US state policies

  - Most states have not acted, typical default is no third party access
  - Several states have adopted specific policies: California, Colorado, Oklahoma, Oregon, Pennsylvania, Texas, Vermont, Washington, and Wisconsin
  - Additional states have open dockets and or legislation pending

Green Button is quickly opening up this discussion...

...Green Button Download My Data makes it easy to get started...

Green Button utilizes the best in security

- Green Button Download My Data
  - Data is transferred directly from the utility to the customer usually via a secured customer access portal with login and password using the latest in SSL protocol common in e-commerce
  - Most utilities will implement this version

- Green Button Connect My Data
  - Automated data transfer from the utility to a third party with customer authorization is the 2nd part of the data standard
  - Launched October 1, 2012 with a few utilities and vendors
  - Utilizes the best in class in authorization and authentication, OAuth 2.0 (Facebook, Google, Yahoo, Twitter, Microsoft, AOL, Yahoo all use this), etc.

- NIST sponsored Cyber Security Working Group (CSWG) established in April 2009; published the Guidelines for Smart Grid Cyber Security
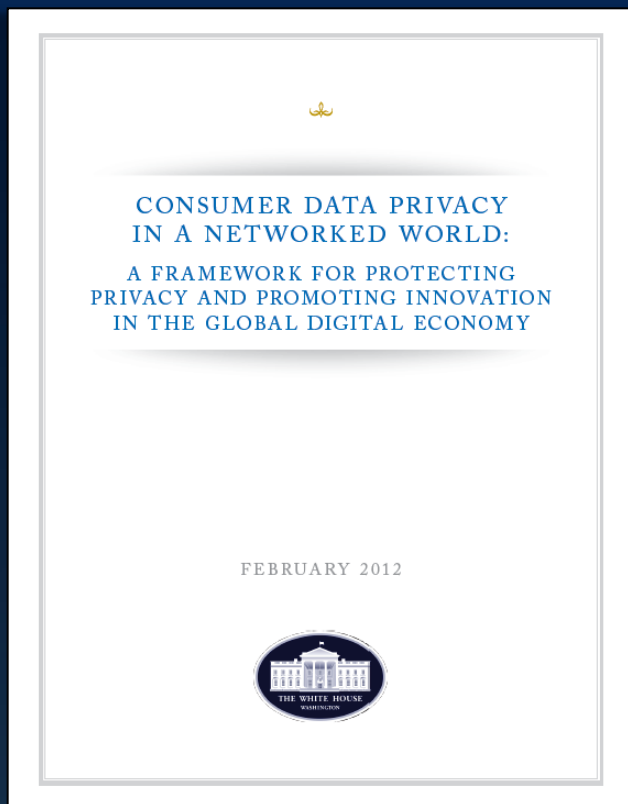
Thank You

www.greenbuttondata.org
www.energy.gov/green-button
Christopher.Irwin@hq.doe.gov

What about Privacy and Security?

CONSUMER DATA PRIVACY
IN A NETWORKED WORLD:

A FRAMEWORK FOR PROTECTING
PRIVACY AND PROMOTING INNOVATION
IN THE GLOBAL DIGITAL ECONOMY

FEBRUARY 2012

- Consumer Privacy Bill of Rights

- Administration Privacy Blueprint – Feb 2012

- Fair Information Practice Principles (FIPPs)

- Federal Trade Commission (FTC) Codes of Conduct

- U.S. Chamber of Commerce Privacy Seal (and similar)

- TRUSTe program of Electronic Frontier Foundation and CommerceNet Consortium