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STANFORD UNIVERSITY

BEHAVIORAL INITIATIVES FOR ENERGY EFFICIENCY

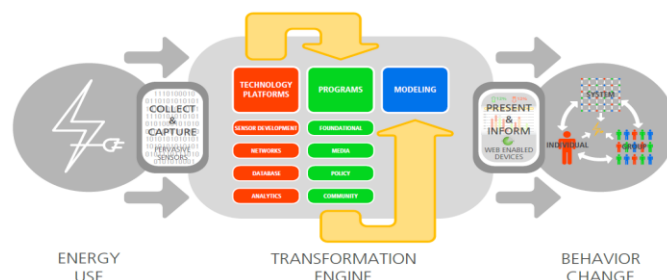
PROJECT TITLE:	Large-Scale Energy Reductions through Sensors, Feedback & Information Technology		
ORGANIZATION:	Stanford University	LOCATION:	Stanford, CA
PROGRAM:	FOA1	ARPA-E AWARD:	\$5,006,011
TECH TOPIC:	Building Efficiency	PROJECT TERM:	1/12/10 – 8/31/13
WEBSITE:	www.hstar.stanford.edu/cgi-bin		

CRITICAL NEED

Energy-sensing technologies such as smart meters are being rapidly deployed to help inform consumers about their energy-use choices—it is expected that 50% of all homes in the U.S. will have smart meters by 2020. Giving homeowners greater access to their energy-use data is a positive step, but such efforts require an understanding of human behavior in order to optimize the potential energy and cost savings to homeowners.

PROJECT INNOVATION + ADVANTAGES

A team of researchers from more than 10 departments at Stanford University is collaborating to transform the way Americans interact with our energy-use data. The team built a web-based platform that collects historical electricity data which it uses to perform a variety of experiments to learn what triggers people to respond. Experiments include new financial incentives, a calculator to understand the potential savings of efficient appliances, new Facebook interface designs, communication studies using Twitter, and educational programs with the Girl Scouts. Economic modeling is underway to better understand how results from the San Francisco Bay Area can be broadened to other parts of the country.



IMPACT

If successful, Stanford's web-based energy services platform and new behavioral experiments will help homeowners save energy, improve their energy efficiency, and reduce their monthly utility bills.

- **SECURITY:** Encouraging homeowners to improve the energy efficiency of their homes could help reduce our demand on the grid.
- **ENVIRONMENT:** Real-time feedback and personalized recommendations could lead to savings of 10% or more, reducing greenhouse gas emissions associated with electricity generation.
- **ECONOMY:** Enabling homeowners to save money on their utility bills would allow them to focus more on purchases that provide greater benefit to the economy.
- **JOBS:** Technologies like this could help create jobs in retrofitting and new construction of energy-efficient homes and commercial buildings.

CONTACTS

ARPA-E Program Director:
Dr. Tim Heidel,
timothy.heidel@hq.doe.gov

Project Contact:
Dr. Carrie Armel,
kcarmel@stanford.edu