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**Abstract:** The Influence of a Solar Water Heater on Residential Hot Water Use Patterns  
The California Center for Sustainable Energy (CCSE) is currently offering a Solar Water Heating Pilot Program (SWHPP) in San Diego Gas and Electric (SDG&E) territory. The SWHPP offers incentives through 2009 to electric customers from commercial, residential, and new construction sectors for natural gas, electricity and propane-displacing solar water heating (SWH) installations. The results of this program will be used to determine if a statewide solar water heater (SWH) incentive program should be offered for natural gas customers and, if so, how it should be designed. The SWHPP evaluator is performing surveys to assess (among other things) the accuracy of the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) domestic hot water load shape profile for a typical SWH owner in California. The ASHRAE profile is used by the Solar Rating and Certification Corporation in determining the energy savings of a particular SWH model. The surveys cover three residential groups: SWH owners throughout California including SWHPP participants, SWHPP workshop attendees who have not participated in the program, and a randomly drawn sample of homeowners throughout California. This poster will discuss the differences in appliance efficiency and hot water use between residential SWHPP participants and the two nonparticipant groups. Questions to be answered include:  
1. Do SWH owners have more efficient appliances than the typical homeowner in California?  
2. Do SWH owners use more or less hot water than a typical household in California?  
3. Do SWH owners change their hot water use pattern after installing a SWH?

**Bio:** Ms. Ochsner is an Energy Engineer in Itron’s Consulting and Analysis group. She currently is Project Manager for the California Solar Water Heating (SWH) Pilot Program being administered by the California Center for Sustainable Energy (CCSE) and is part of the team evaluating the Self-Generation Incentive Program. As Project Manager for the CCSE SWH Pilot Program, Ms. Ochsner is currently directing market research, process evaluation, and cost effectiveness evaluations and making recommendations about whether and how the program should be expanded statewide. Ms. Ochsner has experience in evaluation of performance and cost analysis of renewable and distributed generation technologies including biogas-fueled facilities, PV, wind, and a variety of cogeneration technologies. Ms. Ochsner was also involved in a dairy biogas project for the Sacramento Municipal Utility District, the goal of which is to recommend a cost-effective solution to meet the future California Air Resources Board NOx standards for distributed generation. As a result of that work, she received the prestigious Prime Movers Award for 2008 from the American Society of Mechanical Engineers. Ms. Ochsner also worked on the California Energy Commission’s Public Interest Energy Research program, evaluating methods of increasing biogas production from wastewater treatment facilities. In addition, Ms. Ochsner is also evaluating the energy savings of energy efficiency programs for We Energies in Wisconsin. Ms. Ochsner is responsible for uncertainty evaluations conducted in the SGIP, including the
development and implementation of Monte Carlo methods to combine project-specific metering precisions with program-wide distributions. In the past, Ms. Ochsner has used statistics to identify the relationship between air pollution and socio-economic indicators for countries worldwide. She has used Visual Basic to model water and air pollution and has used Geographical Information Systems to look for geospatial patterns in data. She has researched urban air quality and global climate change issues. Ms. Ochsner holds a B.S. in Environmental Chemistry from Eastern Washington University-Cheney and an M.S. in Environmental Engineering Science from Michigan Technological University-Houghton.

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