

\$martWorks

8th Annual Sustainable Energy Conference

April 26-27, 2011

McKimmon Center

Raleigh, NC



Goals/Objectives

- Avoid excessive peak demand, thereby reducing the need for new electric generation
- Provide a source of green energy while measuring carbon emissions
- Increase customer satisfaction by providing a tool for participants to become more aware and manage their energy usage

Summary of Pilot

- **94 Customers**
 - 11 PWC Employees
 - 72 Residential
 - 11 Non-Residential
- **3 Disconnects**
- **2 Moved to new location**

Hardware

Gateway

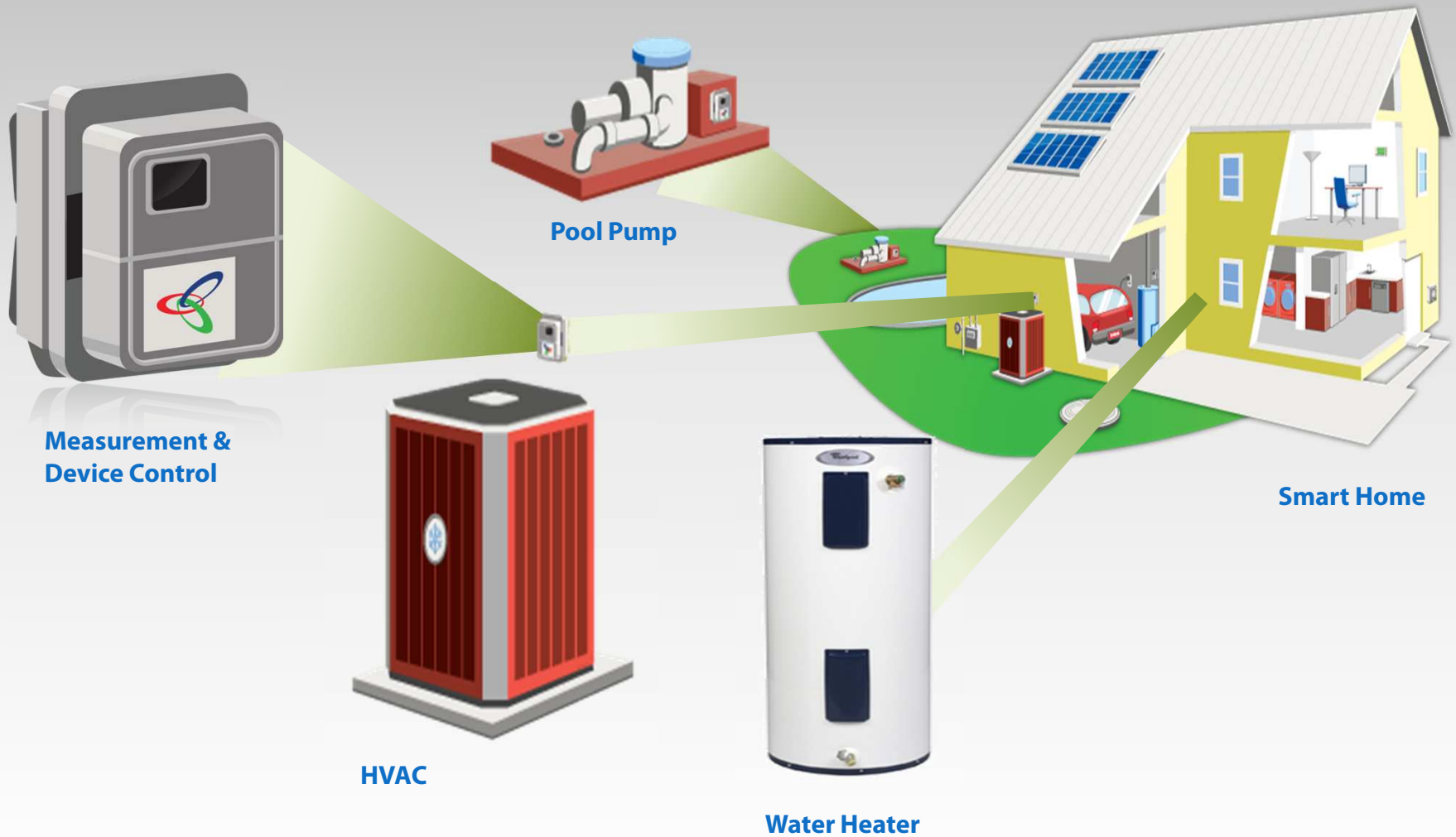


Meter



Smart Communicating Thermostat

Install Measurement & Device Control



Customer Personalized Profile

consert
COMMUNICATE CONTROL CONSERVE

Welcome LAB Three | Logout | Contact Us | Help

Active Program: [MyProgram](#) | Next Program: [Vacation](#) (12am, Sat, Jul 03)

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Shortcuts
[Create New Program](#)
[Edit Account](#)
[Edit Device Names](#)

Energy Snapshot
Cost (selected) | Energy

Spring-Summer

Date	kWh
6/14/4	4.4
6/14/8	4.4
6/14/12	4.4
6/14/16	4.4
6/14/20	4.4
6/14/24	4.4
6/15/4	4.4
6/15/8	4.4
6/15/12	4.4
6/15/16	4.4
6/15/20	4.4
6/15/24	4.4
6/16/8	4.4
6/16/12	4.4
6/16/16	4.4
6/16/20	4.4
6/16/24	4.4
6/17/8	4.4
6/17/12	4.4
6/17/16	4.4
6/17/20	4.4
6/17/24	4.4
6/18/8	4.4
6/18/12	4.4
6/18/16	4.4
6/18/20	4.4
6/18/24	4.4
6/19/4	4.4
6/19/8	4.4
6/19/12	4.4
6/19/16	4.4
6/19/20	4.4
6/19/24	4.4

Active Program:

Program Setting: (08:00 AM - 05:00 PM) Next Program: [Vacation](#), at 12am, Sat, Jul 03

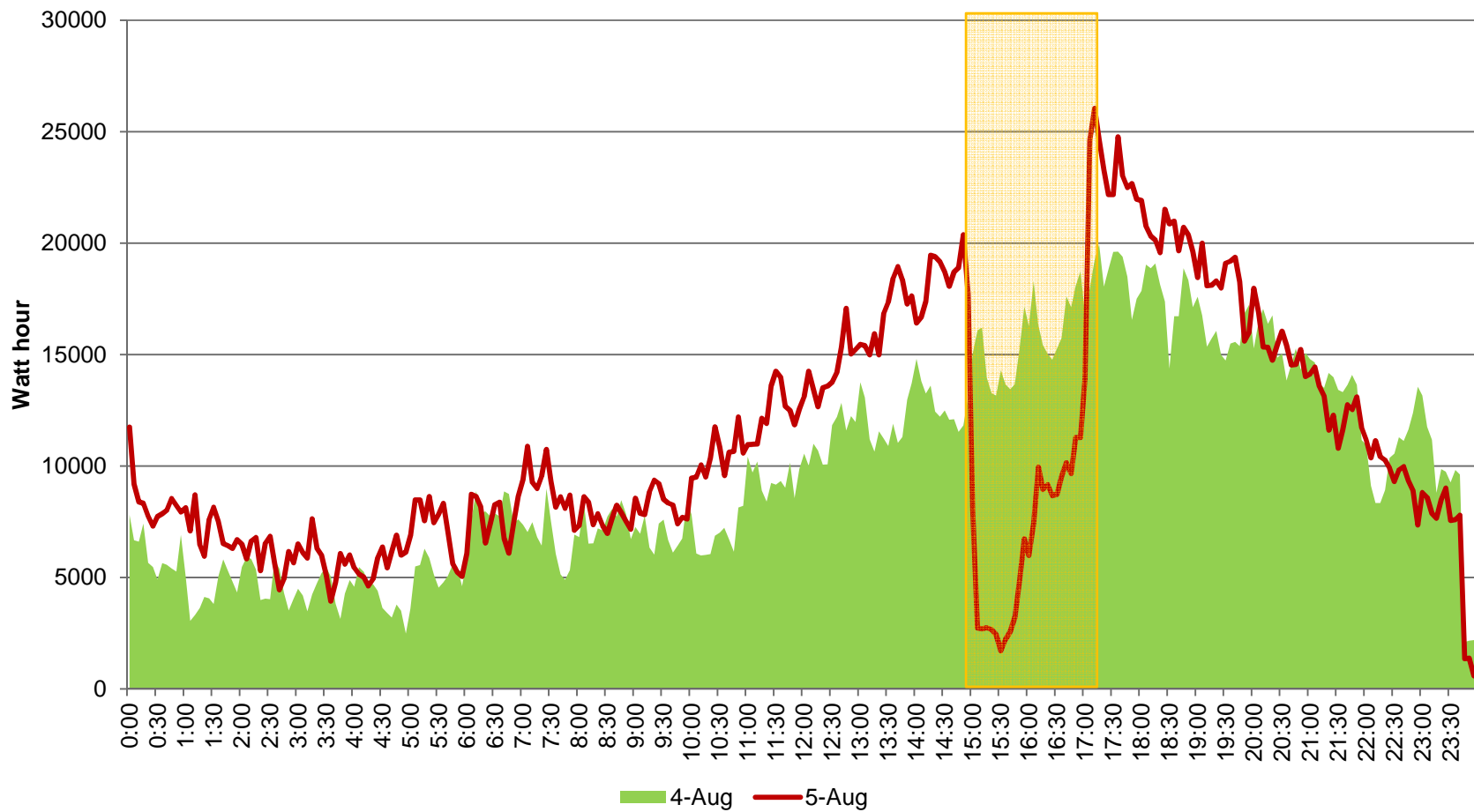
Device Operating Mode: [Normal Mode](#)

Waterheater
Current Setting: ON OFF

Upstairs HVAC
Current Setting: Room Temperature: Thermostat Setting: HVAC state: OFF HEAT/COOL
Preferred Cooling Temperature: Preferred Heating Temperature: Minimum Temperature: Maximum Temperature:

Load Control Event

Energy Usage Aug. 4th, 2010 vs. Aug. 5th, 2010 (Controlled)



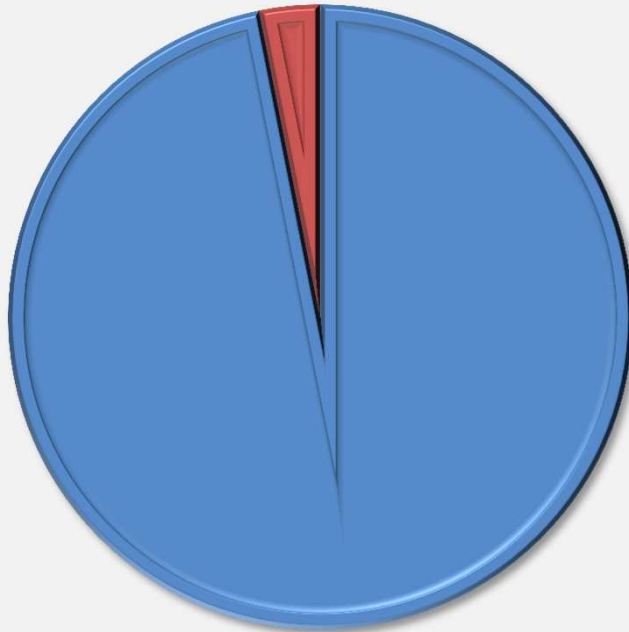
PWC Control Event August 4, 2010

- 2nd Event for summer 2010
- Tested on 95 degree day
- 2.17 kW savings per participant
- 69 sites participating
- 11% total energy saved against control day
- 50 % Peak Reduction out of all VPP participants

Customer Observations

Has participating in the pilot given you more control or empowerment over your energy usage?

3%

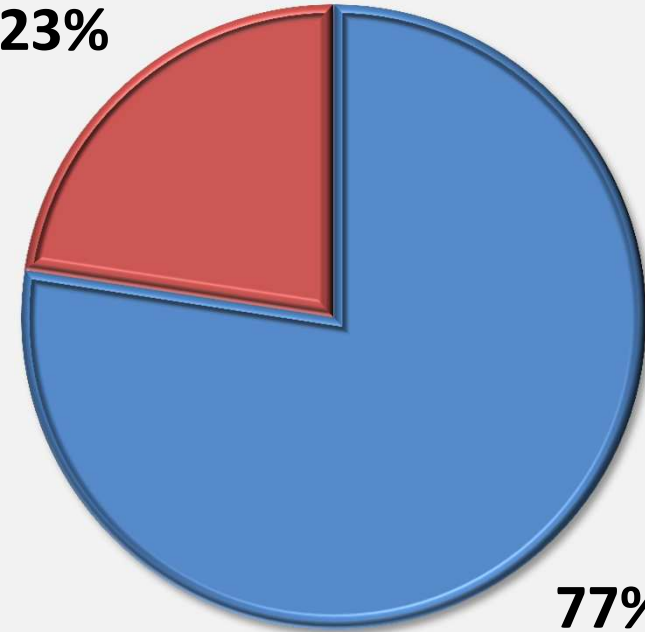


97%

■ Yes ■ No

Has the fact that we are capturing carbon data increased your sense that you are doing your part?

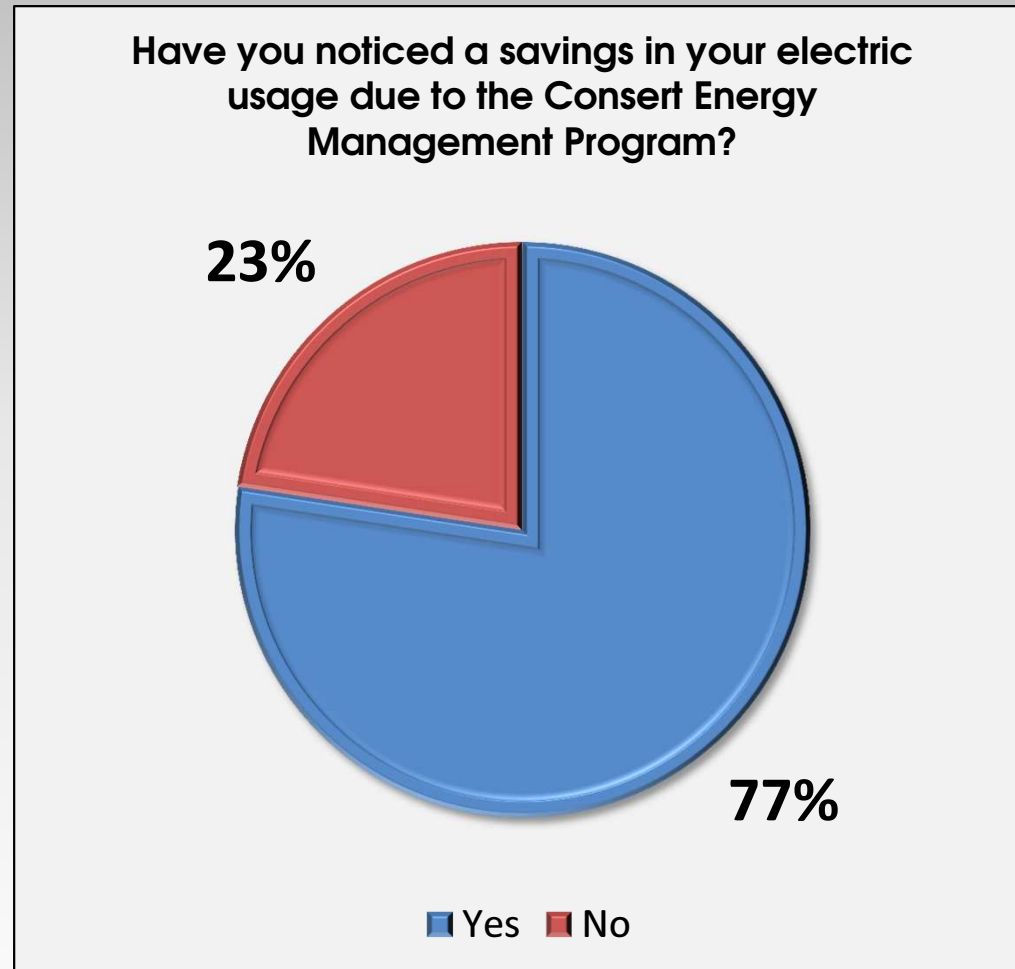
23%



77%

■ Yes ■ No

Energy Savings



PWC Estimates

- Reduce energy consumption by about 106,000 MWhs per year, eliminating the need for approximately two gas-fired peak plants while creating badly needed green energy and green energy jobs
- Reduce carbon consumption, thereby significantly reducing carbon emissions
- Have better control over the amount of capacity they purchase, enabling PWC to trade/sell excess capacity, reducing overall energy usage and costs for the PWC community

Questions?

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