



FLORIDA SOLAR ENERGY CENTER®

*Creating Energy Independence*

# Side by Side Evaluation of Residential Hot Water Heating Systems

Florida Energy Systems Consortium

FESC Workshop – May 12-13, 2014

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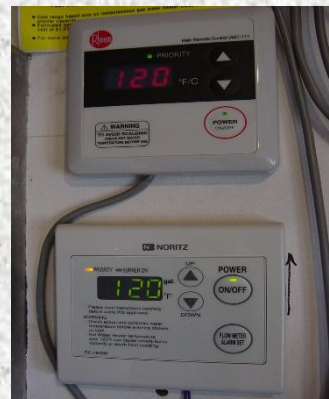


A Research Institute of the University of Central Florida



# Hot Water Systems (HWS) Laboratory

## FSEC Grounds, Florida (east coast)

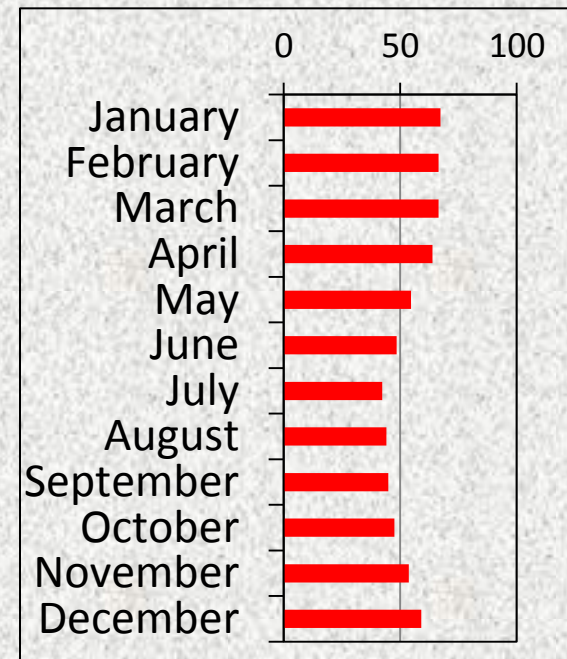
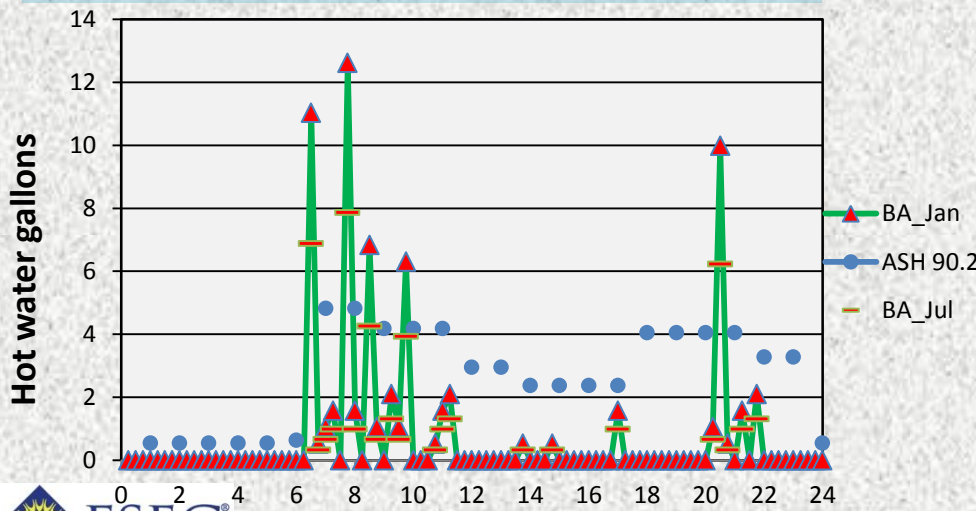
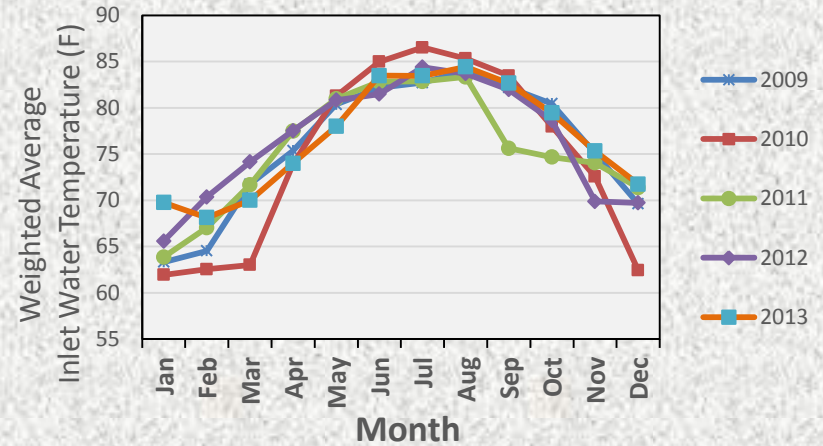


2009 – Present (Currently fourth testing rotation)



# HWS Laboratory Testing Conditions, Cocoa, FL

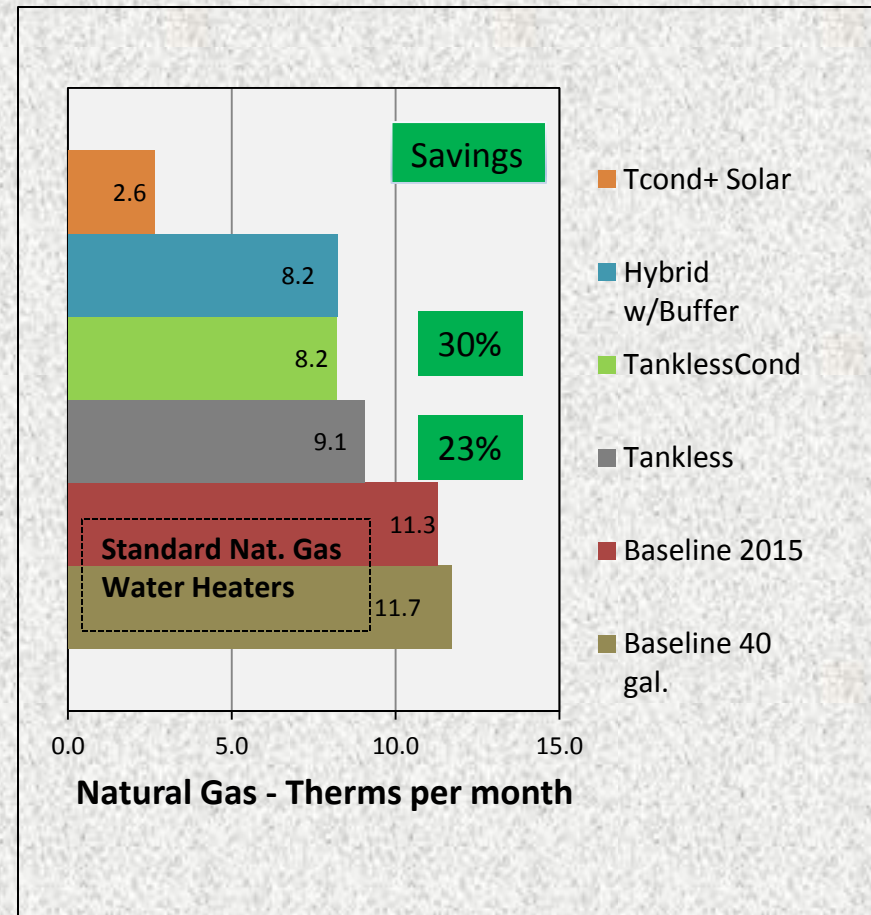
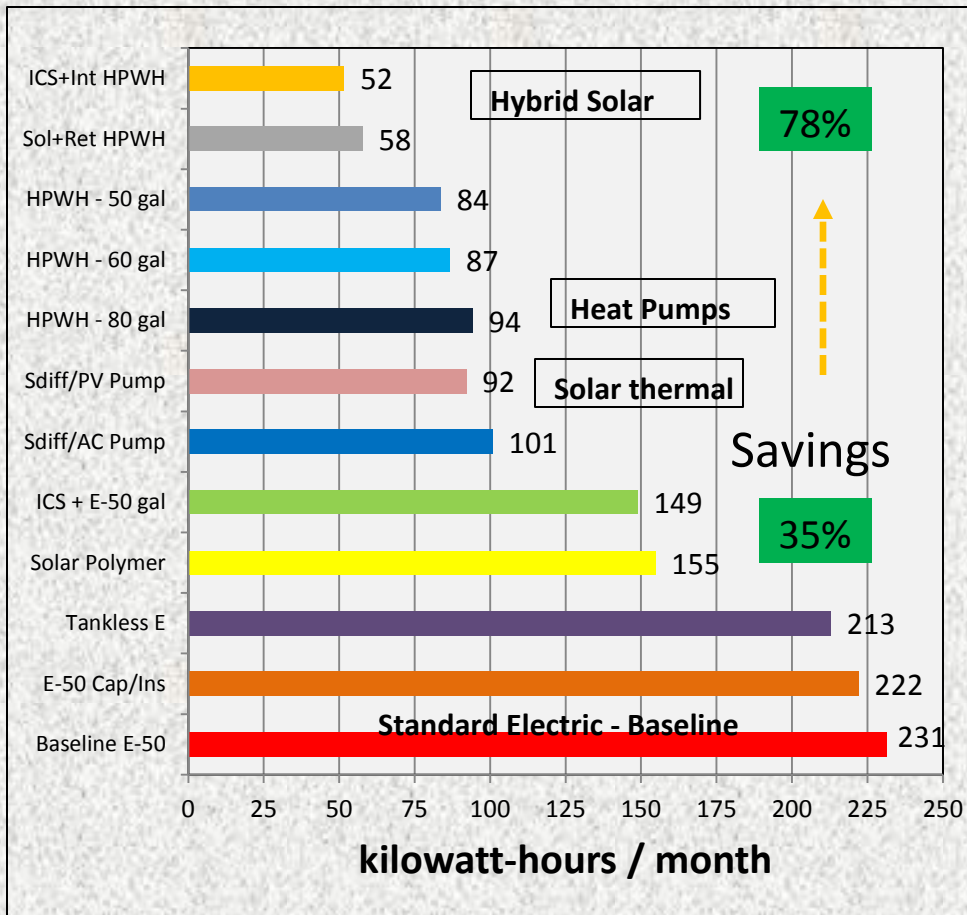
- 120 F Thermostat Setting
- Draws @1.5 gpm flowrate
- Real mains inlet water and ambient temperature
- Hot water draw schedules
  - ASHRAE (64.3 gpd) ●
  - NREL/BA (varies monthly) ▲



Gallons  
NREL/BA  
High = 67  
Low = 42  
Average  
54.8 gpd



# Performance History of Water Heaters at FSEC HWS Laboratory (Cocoa, FL)

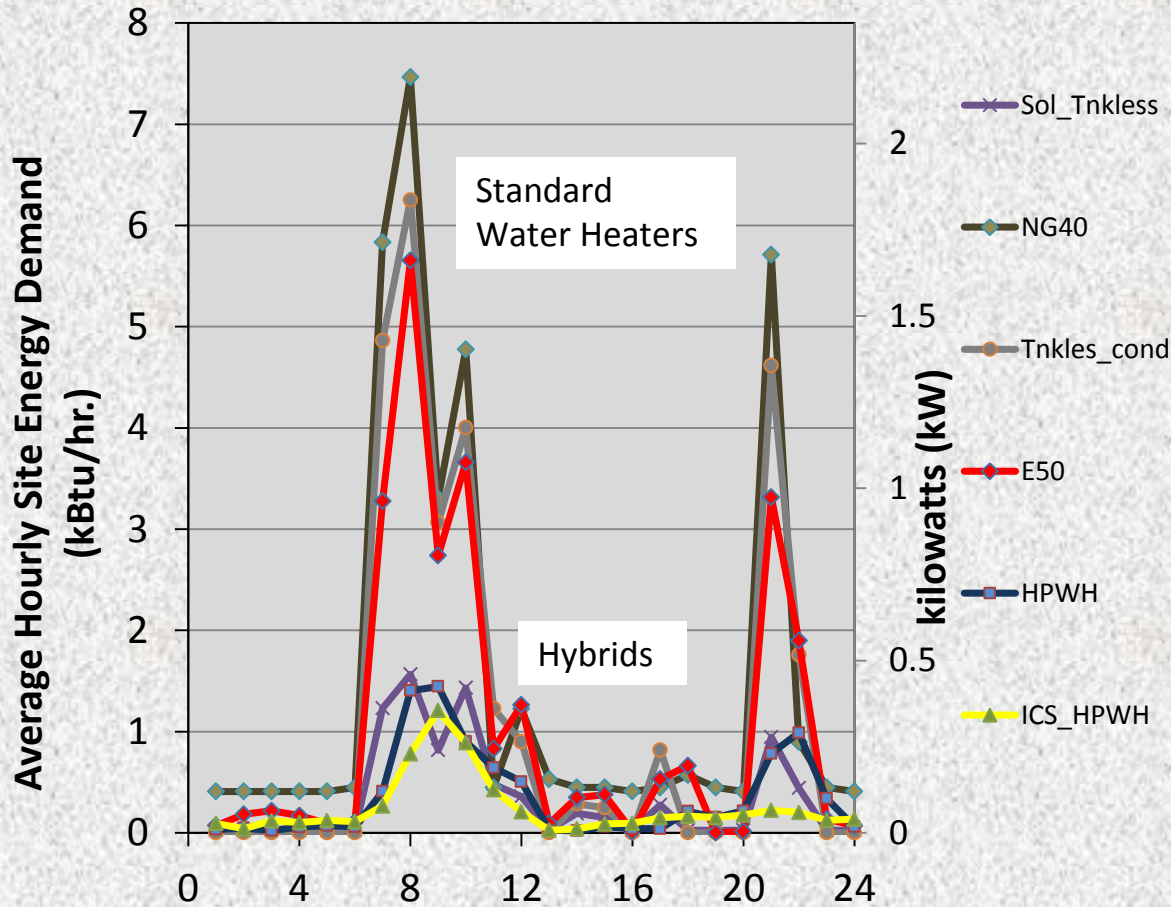


Questions?.....Thank You



# Standard vs. Hybrid Water Heaters

## Average Daily Energy Demand Perspective



Questions?...Thank You

