U.S. DOE Efficiency Standards for Water Heaters > 55 gallons EE vs. DR?

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February 14, 2013
Current Standard for EWH

- > 55 gallons must be heat pump WHs after 2015
- >55 gallons ~ 10-15% of EWH sales
- kWh reduced by ~ half
But..... (1)

- EWHs used to shift load where onpeak and offpeak costs are significantly different (e.g. upper Midwest)
- EWHs have potential for ancillary services (e.g. PNW)
- 100 gallon (non-HP) EWHs can store ~20 kWh at 170°F
But….. (2)

- HPWHs can’t heat water as hot
- kWh per gallon is less, even at same temp, SO
- HPWH are smaller batteries than conventional EWHs
Proposal

- Exception for large EWHs that participate in grid programs like load shifting or balancing services

  Increased grid services + reduced EWH capital cost

  vs.

  Increased energy use

Use your imagination for mix and match, values