



Empowering you to make
smart energy choices

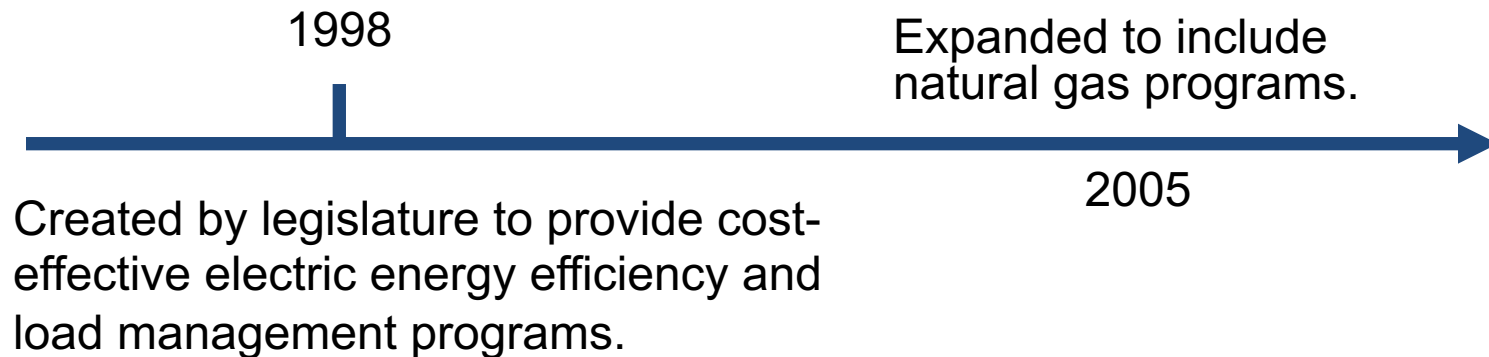
Low Income Demand Response Heat Pump Water Heater Pilot

Presented at the 2019 ACEEE Hot Water Forum

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Energy Efficiency Fund Background



Objectives

- To advance the efficient use of energy
- To reduce air pollution and negative environmental impacts
- To promote economic development and energy security.
 - ***\$2.30 in electric system benefits for every \$1 invested in energy efficiency***

Home Energy Solutions – Income Eligible (HES-IE)

- In-home, direct installation weatherization program offered to income eligible customers at no cost
 - Customer’s income must be at or below 60% of the state median income (“SMI”)
 - Each visit provides a comprehensive energy assessment and direct install measures
 - Vendors are required to evaluate homes for all upgrade opportunities including:
 - Insulation
 - Wall, attic, and basement
 - Windows
 - Heating and cooling systems
 - Water heaters
 - Appliances
- **Services valued at \$1,000

Purpose of Pilot

- Low income customers pay a disproportioned amount on their energy bills in comparison to market rate customers
- Low income customers rarely take advantage of add-on measures if a co-payment is required
- UI is attempting to reduce low income customers' energy bills via upgrading electric resistance water heaters with heat pump water heater technology (HPWH)

Why Heat Pump Water Heaters?

- Water heaters are the second highest source of energy usage in a home
- ENERGY STAR® HPWH can help reduce energy bills by up to 50%
- Heat pump water heaters are one of the most energy-efficient water heating systems on the market today
- Heat pump water heaters dehumidify damp spaces such as a basement or unconditioned space

What is the Heat Pump Water Heater Pilot?

- Eligible customers will have access to an ENERGY STAR HPWH at no cost!
 - UI will cover material and labor costs
- Customers receiving a HPWH with Wi-Fi connectivity in their home may be enrolled in UI's Demand Response program
- UI's contractor, Hubbell, will install HPWHs
- Hubbell will be responsible for all HPWH customer education
 - Will also warranty labor & material for first year

What Heat Pump Water Heaters will customers receive?

- Rheem HPWHs were chosen for this pilot for the following reasons:
 - ENERGY STAR model
 - Wi-Fi capability
 - 10 year warranty
- Customers will receive a 50 gallon or 65 gallon HPWH.
 - We'll match existing water heater sizes.



Whose Eligible?

- Single family and MF 2-4 units homes
- HES-IE customers owners and renters alike
 - Renter occupied units, landlord must provide approval prior to installation.
- Homes with existing electric resistance water heating
- Installed location must be at least 750 cu ft. in volume
- Clear access to and around the existing water heater

Initial Assessment

- 5 key points captured during HES-IE's initial visit.
- These points help UI determine if the customer is approved for a HPWH
- Vendors submits assessment & pictures to UI for approval
- If approved sent to Hubbell for install

2017 HOME ENERGY SOLUTIONS - INCOME ELIGIBLE HEAT PUMP WATER HEATER ASSESSMENT FORM

Customer Name: _____ Date: _____

Address: _____ Town: _____

Best Phone #: _____ Email: _____

Account #: _____ Project #: _____

1. Is the water heater a United Illuminating (UI) Electric Water Heater Rental?:

Yes No

If no, what is the circuit rating that serves the heater:

20amp 30amp Wire Size: _____

2. Is the intended installed location at least 750 cu ft. (10'x12'x6' high) in volume?

Yes No

3. Is there free and clear access to the water heater? Yes No

If no, customer must remedy prior to installation.

4. Confirm desired water heater size and verify sufficient clearance is available:

50 Gallon HPWH is 23" Dia. x 66" High

65 Gallon HPWH is 24 1/4" Dia. x 70" High

5. Please take pictures of the existing water heater, space around the water heater, drain, and the basement to support the upgrade proposal.

Customer Name: _____ Customer Signature: _____

HES-IE Contractor Name: _____ Phone #: _____

Comments: _____

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Install Process

- Hubbell contacts customer to set-up assessment prior to install
 - Check scope of work for electrical needs
 - Ensure there is clear space
 - Asses Wi-Fi access in basement
 - Make an install plan with the customer
- After install, Hubbell educates customer on unit & usage
 - In addition to manual & walk through, provide benefits sheet

Results of 2018 Pilot

- Evaluated 108 homes
- Installed 65
 - 90% sign up for Demand Response
- Continuing pilot HPWH offering to qualifying customers
- Working to make it a permanent part of our program

Pilot Savings & Cost

- 91,505
 - Annual Savings
- 1,189,656
 - Lifetime Savings over 13 year life
- \$1,200
 - Average of 65 gallon HPWH in CT
- \$2,681
 - Average blended for both 55 & 65 gallon installed
- \$174,283
 - Total for 65 installed HPWHs



Questions?

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