



Empowering you to make
smart energy choices

CT Upstream Heat Pump Water Heater (HPWH) Program

Presented by:
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Energy Consultant
Eversource



Energize Connecticut

Statewide initiative to empower residents to save money and use clean, affordable energy through smart energy choices

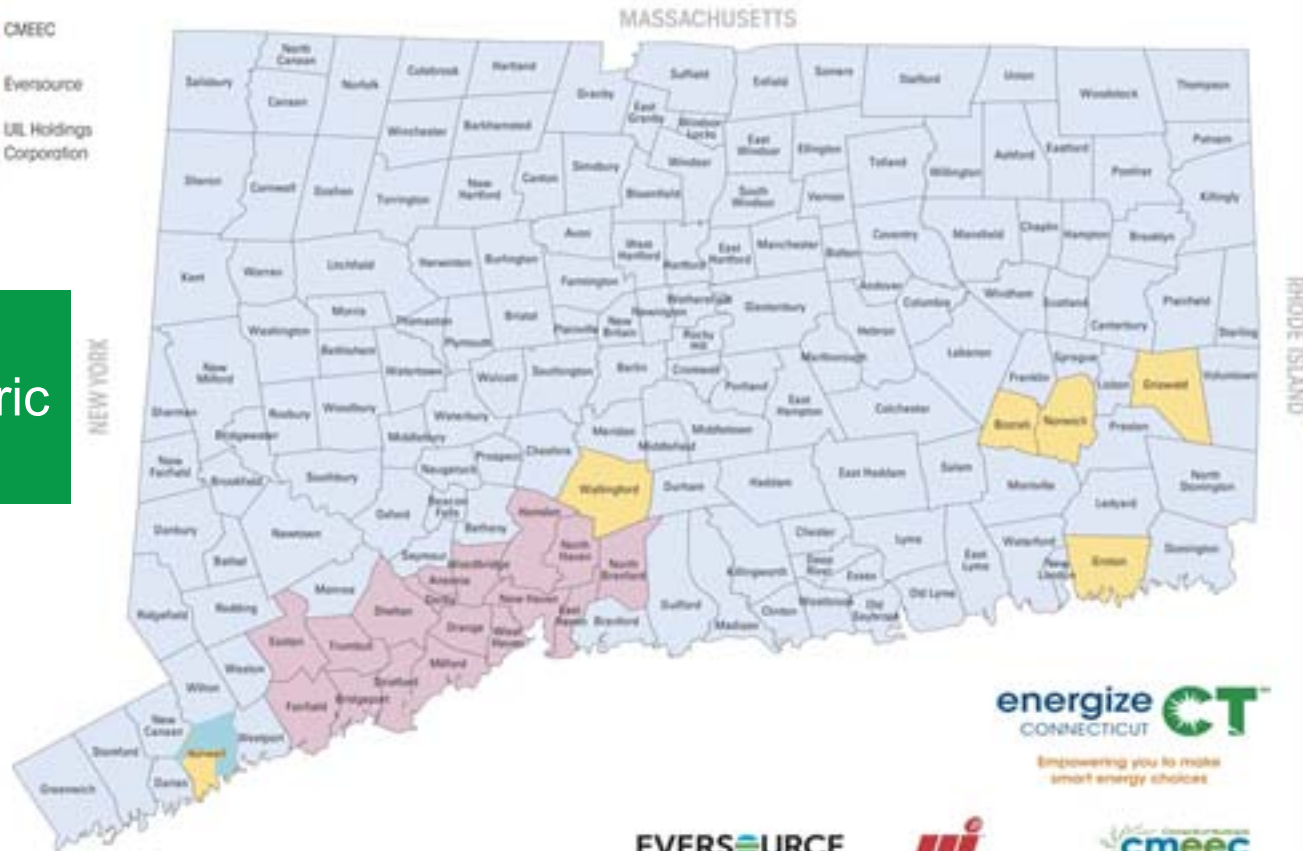
- Funding: A charge on electric and natural gas bills
- Partners: Energy Efficiency Fund, Connecticut Green Bank, Department of Energy and Environmental Protection (DEEP), and local electric and gas utilities
- Energy efficiency solutions are brought to customers by Eversource and The United Illuminating Company

CT Electric Service Territory

1,325,000
Residential Electric
Customers

Electric Service Areas

- CMEEC
- Eversource
- UIL Holdings Corporation



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A UIL HOLDINGS COMPANY

cmeeec

Member Energy Companies

Upstream Heat Pump Water Heater Program

Transition from a \$400 mail-in rebate to an instant discount in January 2014

Program objectives

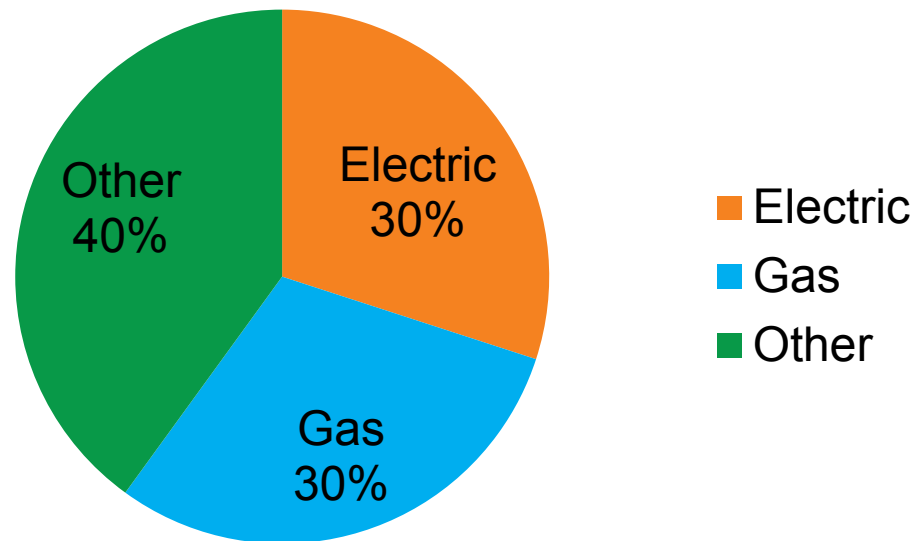
- **Increase Market transformation**
 - Increase stocking and sale
 - Competitive pricing
- **Eliminate loss of savings associated with form breakage**
- **Increase participation** at all levels: Retailer, distributor, contractor and customer

Benefits of Upstream

Stakeholder	Benefits
Manufacturer	<ul style="list-style-type: none">• Opportunity to balance product mix• Push latest technology to market
Distributor	<ul style="list-style-type: none">• Increased profits and market share• Opportunity to transform end market
Contractor	<ul style="list-style-type: none">• Lower first cost• No rebate completion required• Sales and marketing tool to sell jobs
End-users	<ul style="list-style-type: none">• No rebate processing (time and money)• Lower first cost• Energy and lifetime cost savings
Utility Program Administrator	<ul style="list-style-type: none">• Eliminate loss of savings associated with forms• Opportunity to reach larger customer base

CT Market for Heat Pump Water Heaters

- Estimated 312,000 households with electric hot water heaters
- 24,000* Estimated annual sales of all electric resistance water heaters
 - 10% of sales represents 40,200 MWh in energy lifetime savings



Market Barriers

- Lack of consumer/distributor/contractor awareness and education
- Lack of market actors and equipment stocking
- Higher incremental cost
- Unknown performance of HPWH in colder climates
- Emergency replacements
 - Replacement often at failure

Awareness and Education

- Third party provides training on:
 - Heat pump technology
 - Installation best practices
 - Savings expectations
 - Condensate management
 - Dehumidification benefit
 - Noise levels: ~55 decibels
 - Controls: Hybrid mode, heat pump mode, conventional mode



- 335 visits
- Partnerships: Manufacturers train Distributor and Contractor networks

124

Locations statewide

14

Participating retailers

66

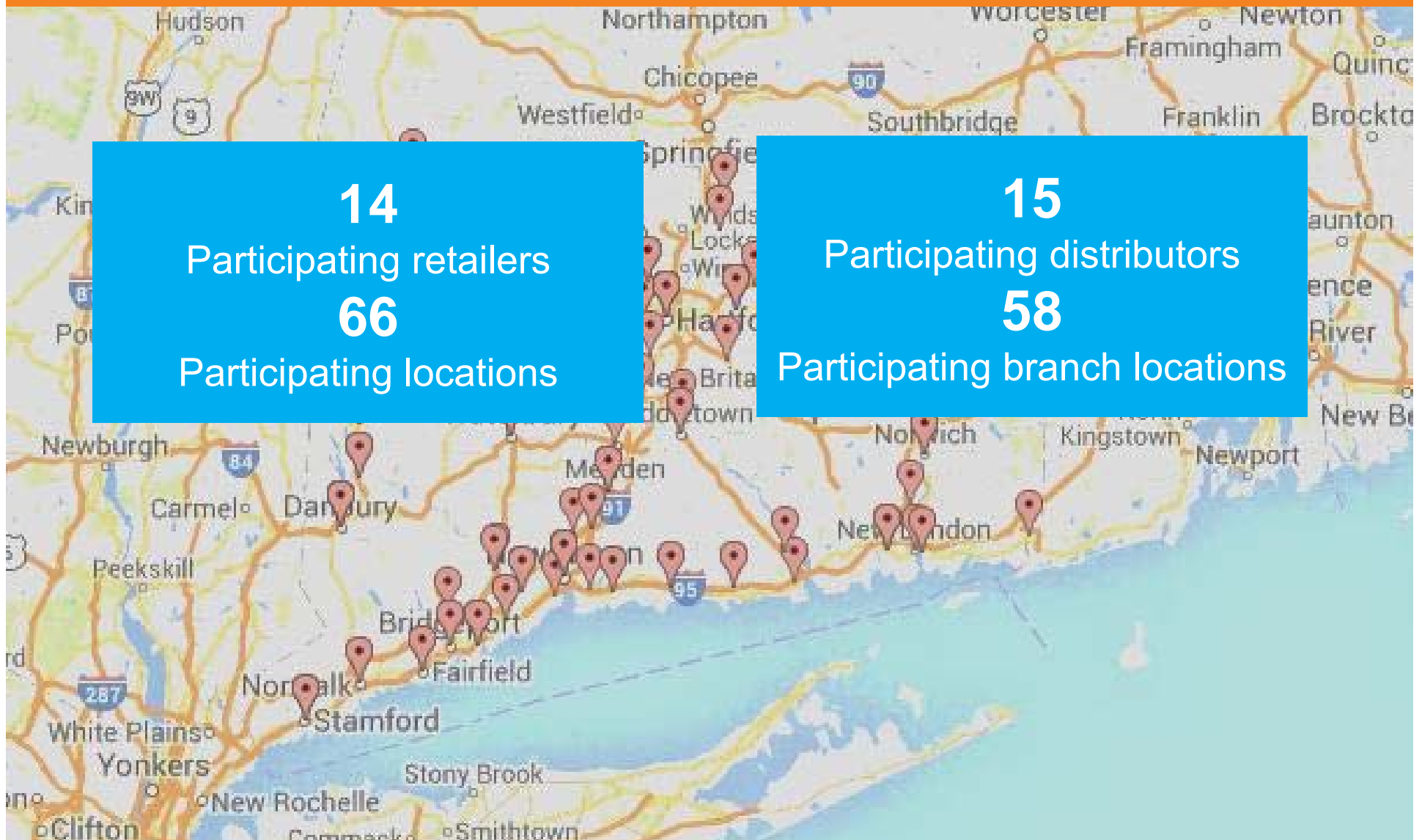
Participating locations

15

Participating distributors

58

Participating branch locations



SAVE HUNDREDS WITH REBATES FROM PARTICIPATING RETAILERS AND ENERGY UTILITIES



Limited-time offer good until Dec. 1, 2015

Don't flood your home if your water heater is over 10 years old and replace it with an Energy Star certified water heater

GE® GeoSpring™	50-gal	80-gal
Regular Price:	\$1,199	\$1,899
Instant savings:	\$200	\$300
Energize CT instant discount:***	\$400	\$400
Final Price:	\$599	\$1,199

To learn more, visit GeoSpring.com or EnergizeCT.com/HeatPumpWaterHeater



PARTICIPATING UTILITIES



Energize Connecticut programs funded by a charge on customer energy bills

***Energize Connecticut instant discount is available to residential customers of Eversource and The United Illuminating Company.

Heat pump water heaters should be installed in open spaces (>750 cubic feet) and work best when installed in unconditioned basements. Avoid installing units in closets or excessively cold areas such as detached garages.

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Product Performance in Colder Climates

Location, Location, Location

- Clearances – Heat pump needs to “breathe;” comply with clearances provided in installation manual
- Air Volume $\geq 750 \text{ ft}^3$ minimum
- Ambient air temperature above 50°F
- Unconditioned basements are ideal
- No Conditioned Spaces (e.g. finished and heated basements)
- **NO CLOSETS / NO GARAGES**



Product Performance Uncertainty in Colder Climates

NEEA Studies suggested HPWHs are appropriated for most applications



Performance Accelera 220E – 58 Gal	Controls
Metric	Measured Value in Heat Pump Mode
Energy Factor (std 67 °F conditions)	3.03
Energy Factor @ 50° F ambient	2.53
Northern Climate Energy Factor	2.58
Number of Consecutive Efficient Showers: 3	
Heat Pump Cut-Off Temperature: 32°F	
Sound Level: 55 dBA	



Performance of GE GEH50DFEJSRA – 50 Gal	Controls	
Metric	Measured Value in Hybrid Mode	Measure Value in CCE Mode
Energy Factor (std 67 °F Conditions)	3.10	3.10
Energy Factor @ 50° F ambient	1.43	2.27
Northern Climate Energy Factor	2.13	2.66
Number of Consecutive Efficient Showers: 2.5		
Heat Pump Cut-Off Temperature: 35°F		
Sound Level: 55 dBA		

In-store Signage, Radio, Billboard, Direct Mail/Email and Video

SPECIAL PRICING
ON SELECT
ENERGY STAR®
ELECTRIC HEAT PUMP
WATER HEATERS

\$400
INSTANT DISCOUNT
PRICE OF PARTICIPATING
MODELS REFLECTS
ENERGIZE CONNECTICUT
INSTANT DISCOUNT

**ASK OUR SALES
AND SERVICE TEAM
FOR DETAILS.**

For more information call
1-877 WISE USE
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Or visit
EnergizeCT.com



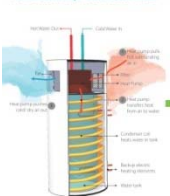
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Energize Connecticut helps you save money and use clean energy. It is an initiative of the Energy Efficiency Fund, the Connecticut Green Bank, the State, and your local electric and gas utilities with funding from a charge on customer energy bills.

How a Heat Pump Water Heater Works



Sponsored by
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1-877-WISE-USE
EnergizeCT.com

**HEAT PUMP
WATER HEATERS
101**

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Installation
When installing a heat pump water heater, it is important to follow the manufacturer's instructions and consult with a professional installer. The installer should ensure that the unit is properly vented and that the electrical wiring is correct. The installer should also ensure that the unit is properly supported and that the water supply and drain lines are correctly connected.

Resources
Energy Guide
Building America's Water Efficient Solutions
EPC Energy Star Product - Water Heaters (Energy)
EPC Energy Star Product - Heat Pump Water Heaters

Brochure Prepared by:
Energy Star, Inc., 2015
Energize Connecticut, Inc.

**Heat Pump
Water Heaters use** **50% LESS ENERGY**
Than standard electric water heaters!

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1-877-WISE USE **EnergizeCT.com**



SAVE HUNDREDS WITH REBATES FROM PARTICIPATING RETAILERS AND ENERGIZE CONNECTICUT.

LOWE'S **RETAILER 2** **RETAILER 3** **RETAILER 4** **RETAILER 5**

Limited-time offer good until Dec. 1, 2015

GE® GeoSpring™	40-gal	50-gal
Regular Price	\$139	\$189
Instant savings	\$39	\$89
Energize CT Instant discount***	\$40	\$40
Final Price	\$60	\$60

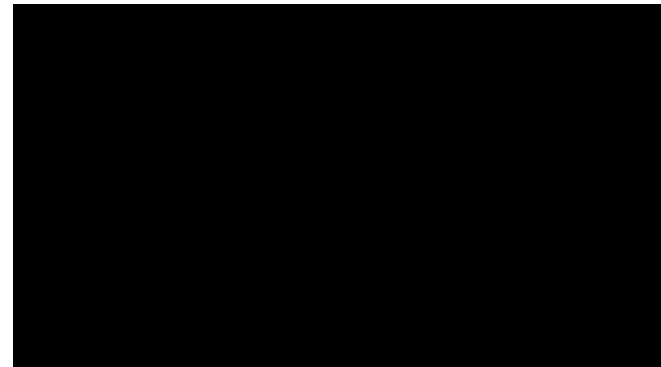
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energize CT **EVERSOURCE**

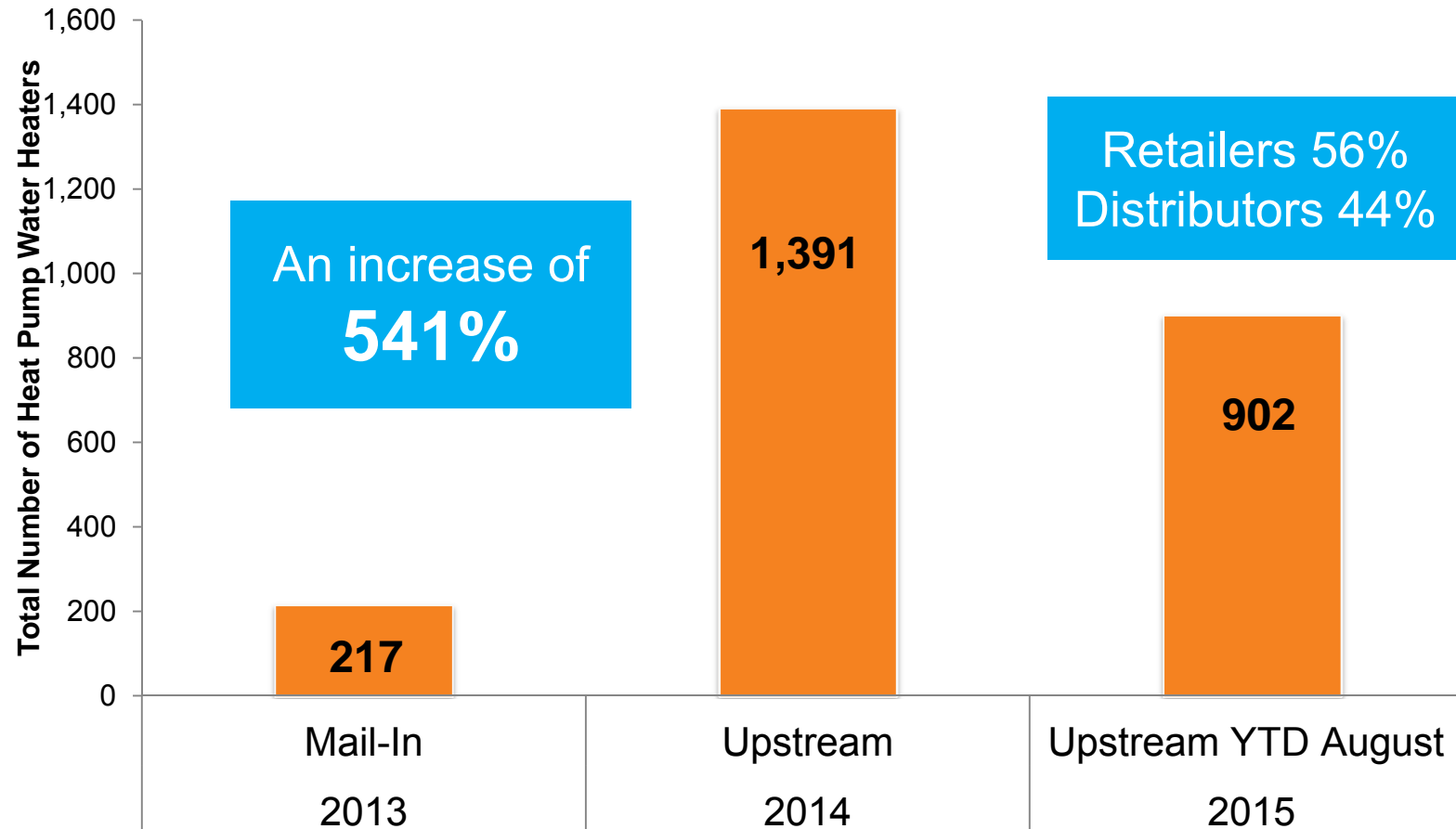
Rebate program sponsored by a charge on customer energy bills.

***Energize Connecticut instant discount is available to residential customers of Eversource and The United Illuminating Company. Heat pump water heaters must be installed by a licensed professional. Heat pump water heaters must be installed in a conditioned space. Heat pump water heaters must be installed in a conditioned space. Heat pump water heaters must be installed in a conditioned space. Heat pump water heaters must be installed in a conditioned space.

FPO



Program Success

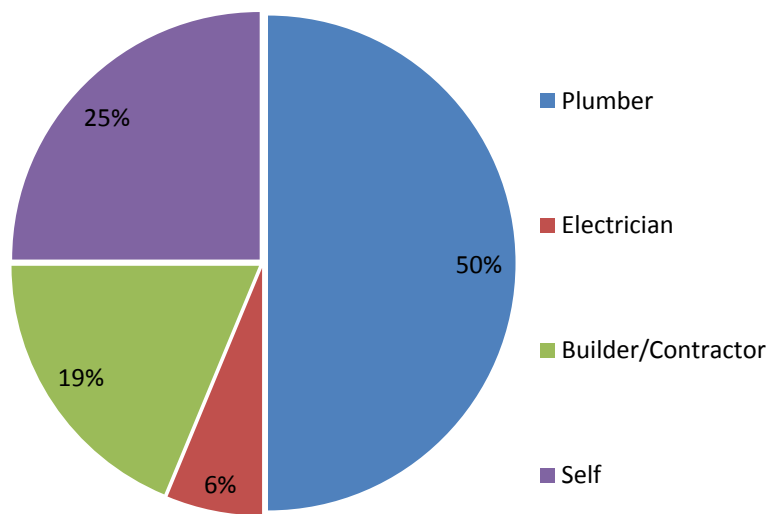


2012 Customer Survey

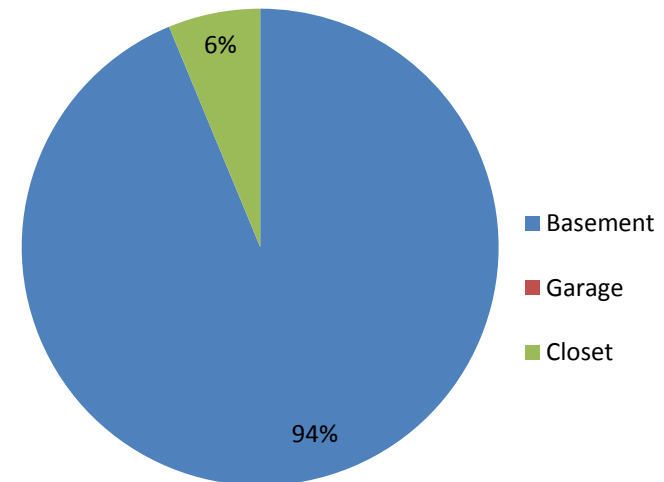
Your overall experience purchasing a heat pump water heater
1 to 5 (being the highest)

1	2	3	4	5
0%	6%	13%	0%	81%

Who installed your HPWH?

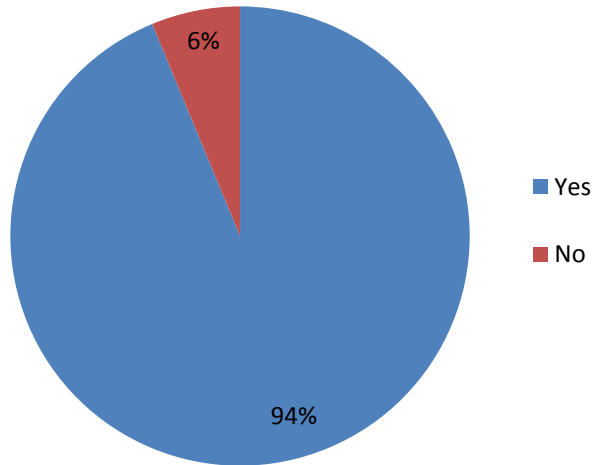


Where did you install your HPWH?

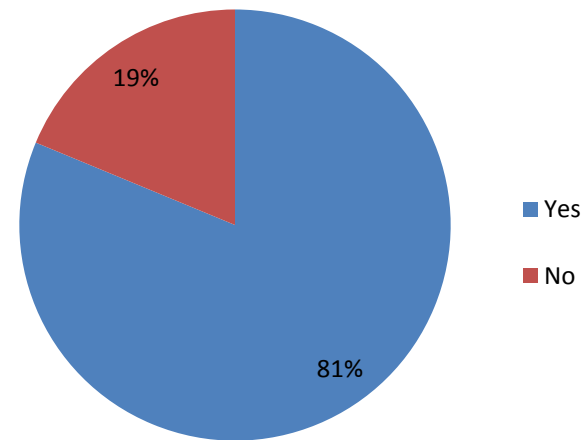


2012 Customer Survey

Is the unit keeping up with your home's hot water demand?



Do you have noticeable savings on your electric bill?



Questions

"Replacing my hot water heater (electric) with a heat pump appears to have fully offset my wife's increased electricity use. It's great. I got married right around when I installed it."

Giovanni Z.

