

## Promoting Water Heating through Midstream Programs

Alice Rosenberg
Senior Program Manager
March 22, 2018 | 9:00-10:30am Pacific
Hot Water Forum | Portland, OR

## **Session Description**

- Residential water heating programs are finding increasing value in moving efforts up the supply chain, by promoting efficient products at the midstream level.
- Presenters will share their work designing and deploying programs designed to incentivize retailers and distributors to stock and promote efficient water heating equipment (both gas and electric products).
- ▼ These include strategies to increase installer, sales associate, and consumer adoption. Speakers will talk about their efforts to date, as well as plans for the future direction of their res water heating midstream programs.

## **Agenda**

- Welcome and Overview: Landscape of Residential Water Heater Programs in the US and Canada
  - Alice Rosenberg, CEE
- Jump Starting HPWH Sales with ENERGY STAR
  - Allison Robinson, Cadmus Group (with US EPA)
- Selling HPWHs the Final Frontier
  - Jill Reynolds, NEEA
- Promoting HPWHs
  - Lisa Boba, United Illuminating



## 2017 Program Landscape

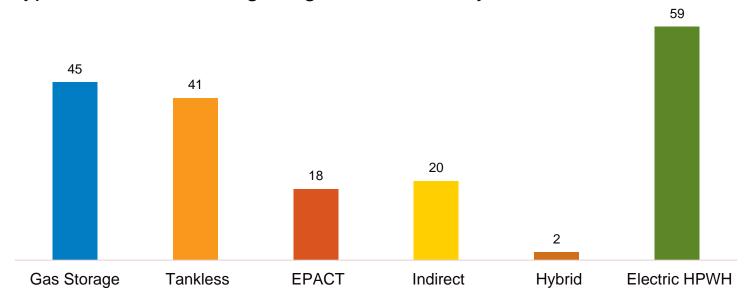
CEE Residential Water Heating Program Summary Results

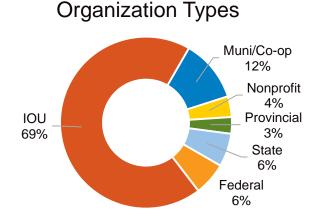
Alice Rosenberg
Consortium for Energy Efficiency

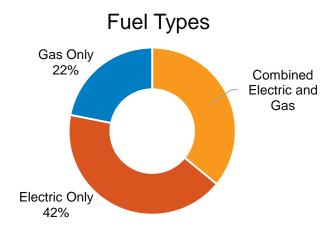


## **Res Water Heating Programs**

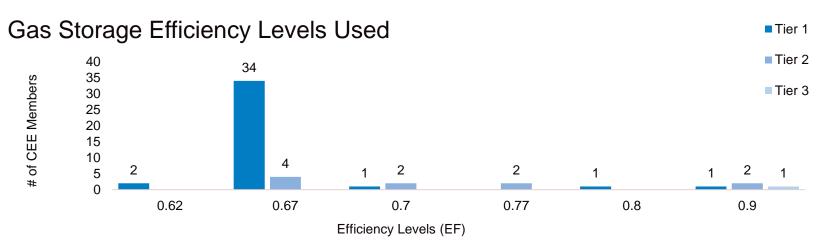
Types of Water Heating Programs Offered by CEE Members



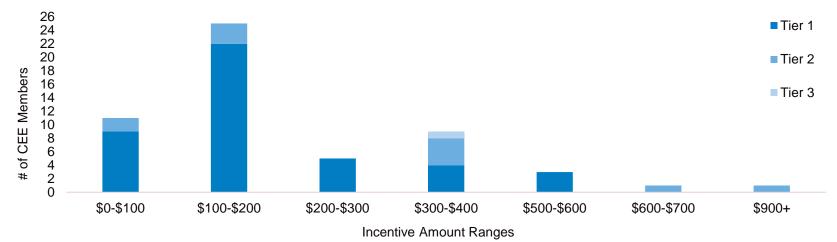




## **Gas Storage Water Heating Programs**

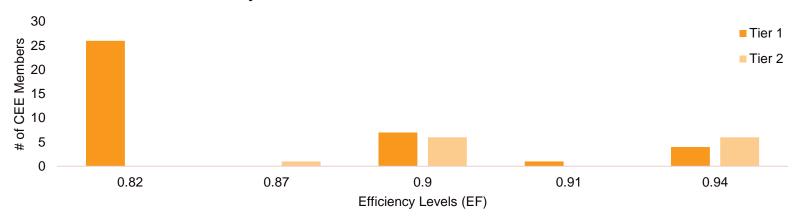


#### Gas Storage Incentive Amounts Offered by Tiers

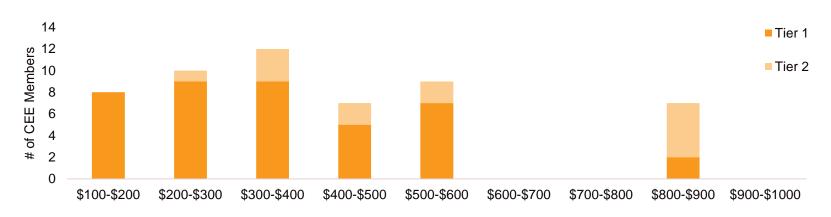


## **Gas Tankless Water Heating Programs**

#### Gas Tankless Efficiency Levels Used

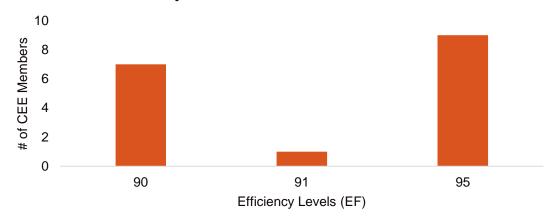


#### Gas Tankless Incentive Amounts Offered by Tiers

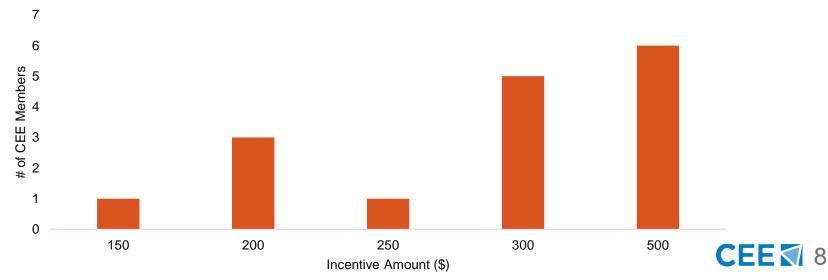


## **EPACT Water Heating Programs**

#### **EPACT Efficiency Levels Used**



#### **EPACT Incentive Amounts Offered by Tiers**

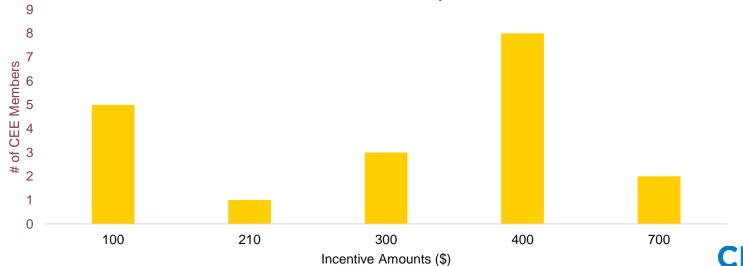


## **Gas Indirect Water Heating Programs**

#### Gas Indirect Efficiency Levels Used

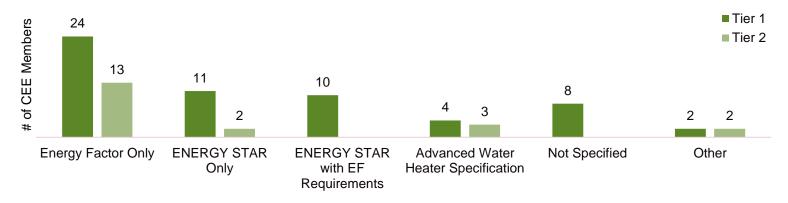


#### Gas Indirect Incentive Amounts Offered by Tiers

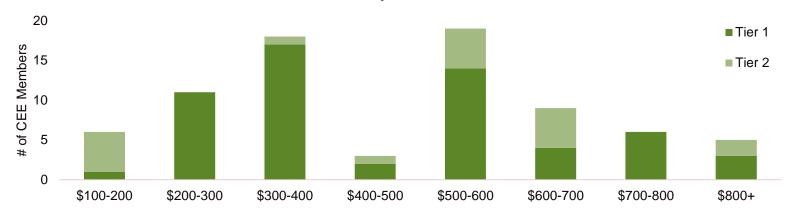


## **Heat Pump Water Heating Programs**

#### **HPWH Specifications Used**



#### **HPWH Incentive Amounts Offered by Tiers**

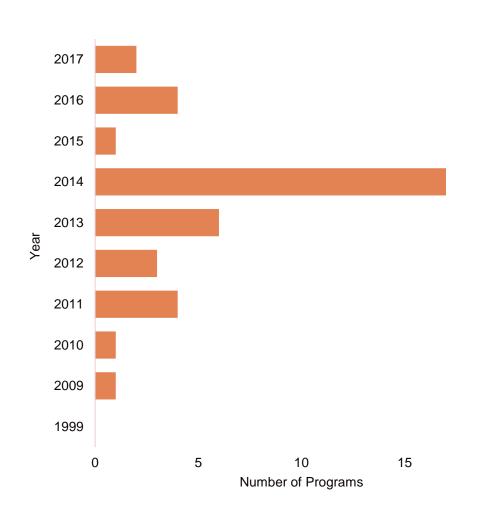


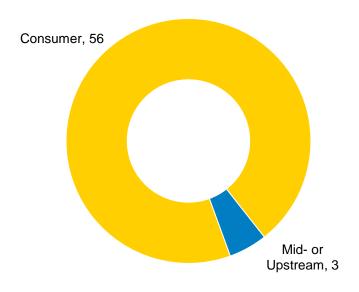
## **Heat Pump Water Heating Programs**

20

HPWH Program Year Established

**HPWH Incentive Recipients** 

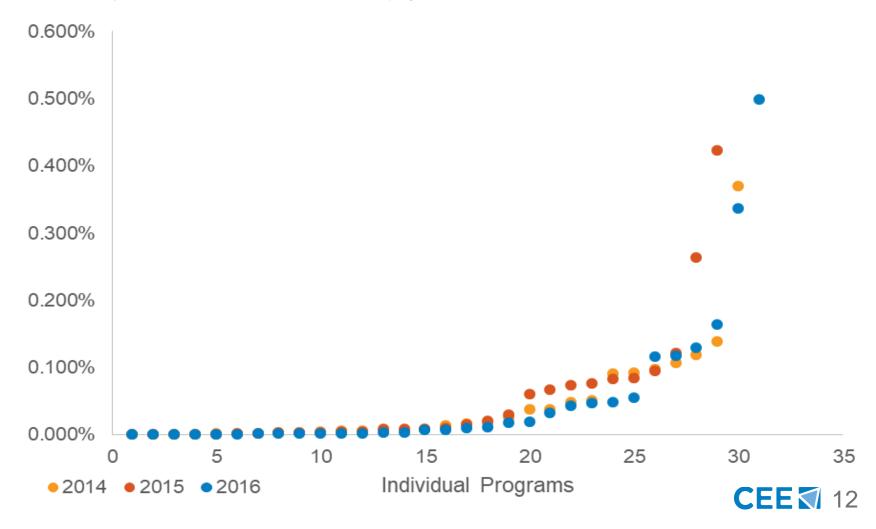




### **Heat Pump Water Heating Programs**

#### Number of Units Rebated Per Number of Electric Customers\*

\* Data based only on information available from select member programs



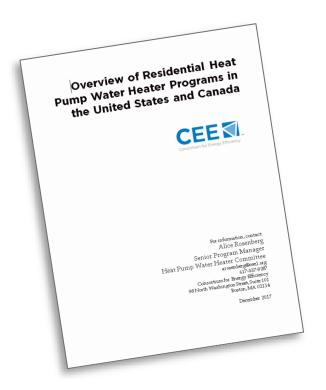
## **Water Heating Programs Trends**

- Increasingly ambitious portfolio savings goals
- Increased number of heat pump water heater programs
- Greater emphasis on midstream/upstream opportunities
- Still a lot of variation in program uptake across membership
- Continued interest in addressing persistent barriers
  - Locally
  - Binationally

## Full Program Summary Available

http://www.cee1.org/content/cee-program-resources

	ount of CEE Members Respective Measure					45	41	18	20	2	59	14	15	38
0110111	Troopeoute medeate								Me	asures Offere	ed .			
	EE Members	State or Provinc	Organization Type	Fuel Type	Program Name and Website	Gas Storage	Gas Tankles: 🖵	Gas EPACT	Indirect	Hybrid 🔻	Electric HPWH	Solar Water Heater	Other Water Heater	Showerhead
Alabama Po	wer	AL	IOU	Electric Only	Link								Yes	
Aliant Energ	gy—lowa	IA	IOU	Combined Electric and Gas	Link	Yes	Yes				Yes			
	gy—Wisconsin	WI	IOU		Focus on Energy				Yes		Yes			Yes
Ameren Ilin	ols	L	IOU	Combined Electric and Gas										Yes
Ameren Mis	souri	МО	IOU	und oud	2016 Residential Natural Gas Energy Efficiency Rebate Program	Yes	Yes				Yes			Yes
Arizona Put	olic Service	AZ	IOU	Electric Only	Link							Yes		
Atmos Ener 6 Corporation	gy	co	IOU	Gas Only	Colorado Energy Efficiency Program - High Efficiency Equipment Rebate									Yes
Atmos Ener Corporation	gy	KY	IOU	Gas Only	Kentucky Energy Efficiency Program - High-Efficiency Equipment Rebate	Yes	Yes							
Austin Ener		TX	Muni/Co-op	Electric Only	Power\$aver Program						Yes			
Avista—Ida	ho	D	IOU	Combined Electric and Gas	Link		Yes				Yes			
Avista—Ore		OR	IOU	Gas Only	Energy Trust of Oregon: Residential Rebates	Yes								
Avista—Wa		WA	IOU	Combined Electric and Gas	Rebates: Washington		Yes							
	as and Electric Company	MD	IOU	Combined Electric and Gas	BGE Smart Energy Savers Program						Yes			
Berkshire G		MA	IOU	Gas Only	Mass Save, Gas Networks	Yes		Yes	Yes					
	ower Administration	Northwest	Federal	Electric Only	Link						Yes			Yes
Cape Light (		MA	Muni/Co-op	Electric Only	Mass Save						Yes	Yes	Yes	Yes
	as of Massachusetts	MA	IOU	Gas Only	Link	Yes	Yes	Yes	Yes					
Columbia G		ОН	IOU	Gas Only	https://www.columbiagasohio.com/ways- to-save/furnace-boiler-discounts	Yes	Yes							Yes
	alth Edison Company	L	IOU	Electric Only	to-save/furnace-boiler-discounts Smart Ideas						Yes			
	Natural Gas	ст	IOU	Gas Only	Energize CT Gas Water Heating Program	Yes	Yes	Yes						
	d Edison Company	NY	IOU	Combined Electric	Link	Yes	Yes		Yes		Yes			
Consumers		MI	IOU	and Gas Combined Electric	Energy Saving Solutions	Yes	Yes							





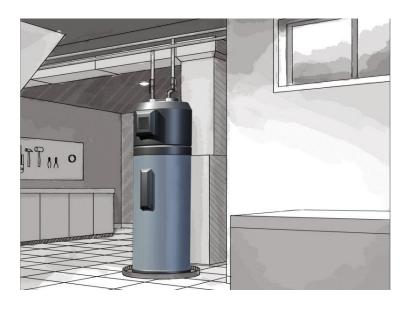
# Jump Starting HPWH Sales ENERGY STAR's Latest Efforts to Grow the HPWH Market

Allison Robinson
Cadmus Group
On behalf of US EPA





## Jump Starting Heat Pump Water Heater Sales: ENERGY STAR's Latest Efforts to Grow the Water Heater Market

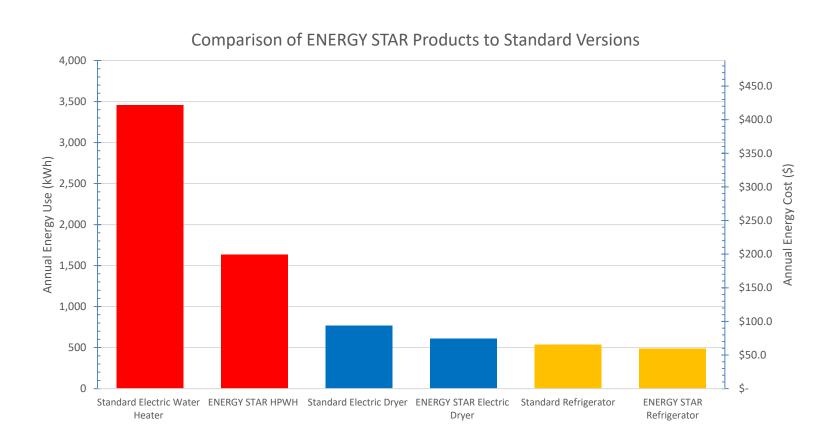


Allison Robinson, The Cadmus Group Contractor for Environmental Protection Agency's ENERGY STAR Program March 22, 2018





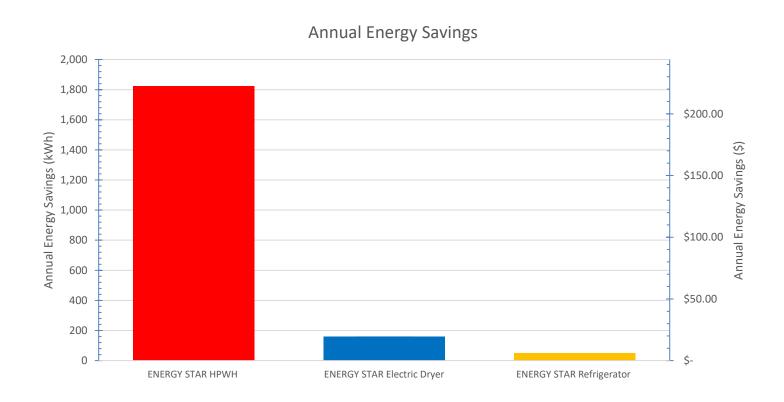
#### **ENERGY STAR Certified Water Heater Energy and Cost Savings are High**







#### **ENERGY STAR Certified Water Heater Savings Opportunity**







#### **ENERGY STAR Specification for Residential Water Heaters**

- Eligible for ENERGY STAR certification since 2008.
- Finalized Version 3.2 specification in July 2017, allows water heaters to certify with uniform energy factor (UEF) data. UEF requirements induce some technology breaks:
  - Electric: heat pumps only.
  - Gas instantaneous: condensing only.
  - Gas storage: condensing only for large volume.







#### **ENERGY STAR Specification for Residential Water Heaters**

Subtype	Size	Draw Pattern	UEF	
Electric	≤ 55 gal	All	2.00	
	> 55 gal	All	2.20	
Gas Instantaneous	All	All	0.87	
Gas Storage	≤ 55 gal	Medium	0.64	
		High	0.68	
	> 55 gal	Medium	0.78	
		High	0.80	
Res duty comm.	All	All	0.80	

Solar water heaters are also included; requirements in terms of Solar Energy Factor (SEF): 1.8 SEF for models with electric backup, 1.2 SEF for models with gas backup.





#### **Background – Utility Partners**

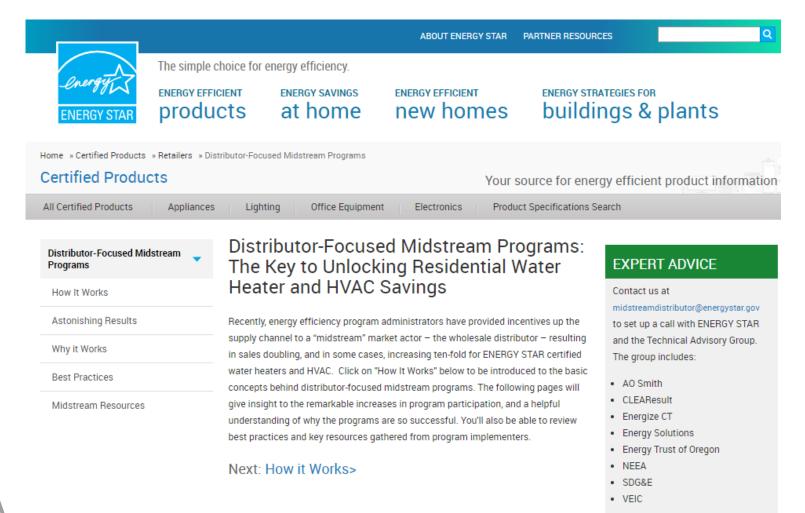
- ENERGY STAR has over 600 utility and regional efficiency group partners.
- ENERGY STAR developed guidance on midstream distributor-focused water heater programs by:
  - Interviewing program actors that have implemented programs.
  - Reviewing key program policy papers and presentations.
  - Interviewing program managers interested in midstream water heater programs to understand their concerns.







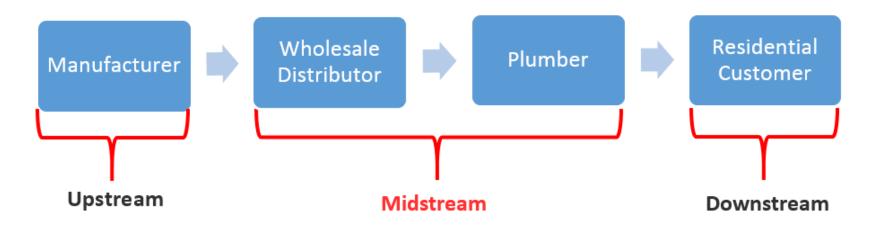
#### **New! Distributor-Focused Midstream Website**







#### **Understanding the Fundamentals**



- End downstream (mail-in) rebates.
  - Ineffective: high overhead and marketing costs; contractors/customer do not like forms and waiting for reimbursement.
  - Low participation: ETO found only 50% of HPWHs sold received downstream rebates.
- Shift rebate to distributor.
  - Cooperative agreement with distributor to pass along "instant" discount to contractor.





#### Why Midstream for Water Heaters Makes Sense Now

- Energy Independence & Security Act (EISA):
  - 45 lumens per watt (LPW) mandate by January 1, 2020.
- Largest impact for residential programs:
  - Potential savings per bulb goes from 32 Watts to 3.2 Watts.
  - 65% reduction of gigawatt hours (GWH) savings.
  - Claimable savings goes down!







#### **Amazing Increases in Water Heater Program Participation**

Efficiency Program	Measure	Incentive Amount	Increase in Program Participation
efficiency	ENERGY STAR Certified Heat Pump Water Heater (HPWH) <sup>3</sup>	\$600*	423% <sup>4</sup> (PYI) <sup>5</sup>
Efficiency Vermont	ENERGY STAR Certified HPWH <sup>6</sup>	\$300/\$500**	750% <sup>7</sup>
energize	ENERGY STAR Certified HPWH <sup>8</sup> and Natural Gas Water Heaters <sup>9</sup>	\$300 for gas; \$600 for HPWH	1000% <sup>10</sup> (PY2)
	ENERGY STAR Certified Natural Gas Boiler and Furnaces <sup>11</sup>	\$450 to \$80	234% (PY2)
Energy Trust of Oregon	ENERGY STAR Certified HPWH <sup>12</sup> and Natural Gas Water Heaters <sup>13</sup>	\$100 for gas; \$300 for HPWH <sup>14</sup>	Just began program in 2017





#### **Why Midstream Works**

- Program administrator:
  - Eliminates rebate breakage and increases participation by order of magnitude.
- Manufacturer:
  - Sells more higher profit energy efficient water heaters.
- Plumber:
  - Receives incentive instantly without burdensome paperwork.
- Homeowner:
  - Obtains efficient water heater during emergency replacement.





#### **Distributors Can Be Persuaded**

- Hardest to convince because asking distributor to administer incentive program and:
  - Increase paperwork/ recordkeeping burden and transaction time.
  - Learn about efficient water heater options.
  - Risk overstock of unsellable efficient water heaters if funding goes away (inventories set months in advance).
  - Pass along 100% of incentive to contractor usually.
- But, distributors are often convinced by....
  - Larger profit per efficient water heater sold.
  - An "administrative fee" to ease incentive application burden.



**Skeptical Distributor** 





#### **Best Practices**

- Take advantage of peer learning/exchange:
  - ENERGY STAR Technical Assistance Group. Email <u>midstreamdistributor@energystar.gov</u> to set-up a call.
- Continue outreach to contractors and consumers.
- Familiarize yourself with plumbing supply distributors.
- Work with EM&V teams during program planning.
- Fine tune the midstream incentive.
- Manage how incentives are passed along.









#### **Best Practices: Accommodating Distributors**

- Appeal to the distributor's bottom line.
- Involve few select large distributors early in the program development process.
- Provide a method for verifying eligible models.
- Provide an administrative fee to distributors.









#### **Best Practices: Accommodating Distributors**

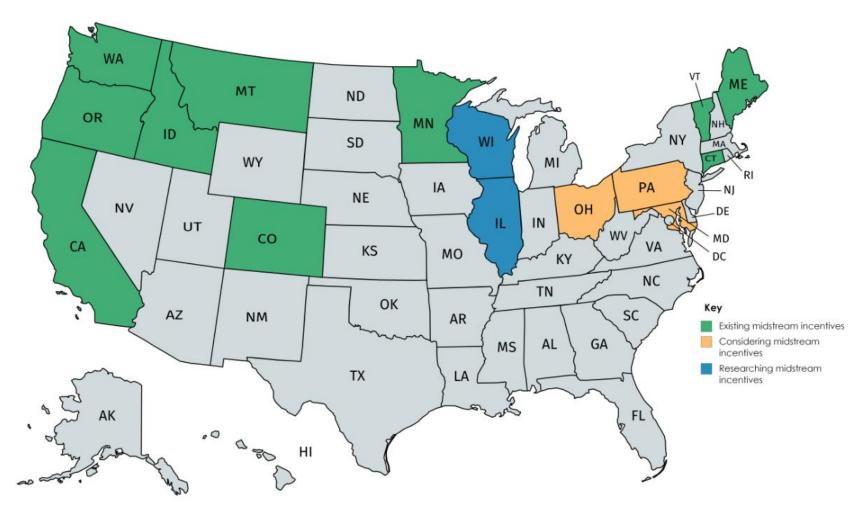
- Pay the distributor within 30 days (enormous outlays by distributor).
  - Provide online portal to input incentive information.
  - Minimize data input requirements.
  - Automate incentive processing by integrating incented WHs into distributor inventory and sales tracking.
  - Use direct deposit and electronic fund transfers to expedite payment.
- Plan for increases in program participation to avoid budget overruns.







#### **Midstream HPWH Incentives from ENERGY STAR Partners**







#### **NEW! ENERGY STAR Tool – Water Heater Replacement Guide**



Heat pump water heaters use advanced technology to do the job with significantly less energy. In most homes they can be installed right where your current water heater sits. Take a moment to go through 4 simple installation considerations to figure out if a heat pump water heater is right for your home.

**GET STARTED** 

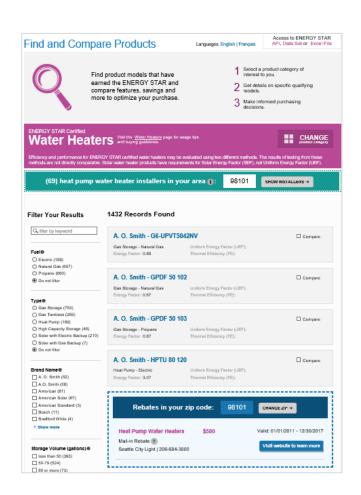
#### Why Choose an ENERGY STAR certified heat pump water heater?

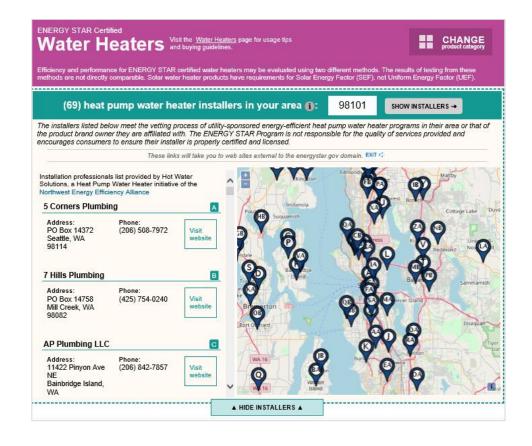
- Save more than 50% on water heating energy costs up to \$3,500 lifetime savings for a family of four.
- Take advantage of utility rebates that may be available in your area.
- Products with the ENERGY STAR label are independently certified to deliver energy savings and help protect the environment.





#### **Upcoming! ENERGY STAR Tool – Water Heater Contractor Finder**





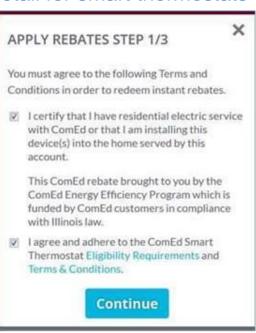




#### **Looking to the Future**

- Greater expansion of midstream programs for water heaters.
- Instant Rebates at Retail:
  - Pilots at retail currently underway.
  - In-store smartphone app:
    - Scans the product barcode (next to POP promoting program to address attribution).
    - Asks for address, confirmation of service territory (to address leakage).
    - Issues an online coupon to reduce price at checkout.
  - Utility branded gift card could be issued instead of a reduced price (to improve attribution).

### ComEd instant rebate at retail for smart thermostats







#### **Interested in Learning More or Meeting with the TAG?**

Contact us at midstreamdistributor@energystar.gov to set up a call with ENERGY STAR and the Technical Advisory Group. The group includes:























#### **Any Questions?**

- Key Staff:
  - Rosemarie Stephens-Booker, EPA ENERGY STAR, 202-343-9529,
     stephens-booker.rosemarie@epa.gov
  - Allison Robinson, Cadmus, (503) 467-7102, Allison.Robinson@cadmusgroup.com
  - Robert Huang Cadmus, (617) 673-7117, <u>Robert.Huang@cadmusgroup.com</u>
- Midstream Website:

www.energystar.gov/products/retailers/midstream\_programs





# Selling HPWHs The Final Frontier

Jill Reynolds
Northwest Energy Efficiency Alliance





# Selling HPWHs – The Final Frontier

#### Jill Reynolds









## Agenda

- Why HPWHs?
- Midstream Key Ingredients
- Installer Buy-In
- Lessons Learned
- Questions



#### **NEEA Overview**

- Northwest Energy Efficiency Alliance (NEEA) Nonprofit organization using market transformation to maximize energy efficiency and meet future energy needs
- Funded by:
  - » Bonneville Power Administration (BPA)
  - » Energy Trust of Oregon
  - » More than 100 Northwest utilities

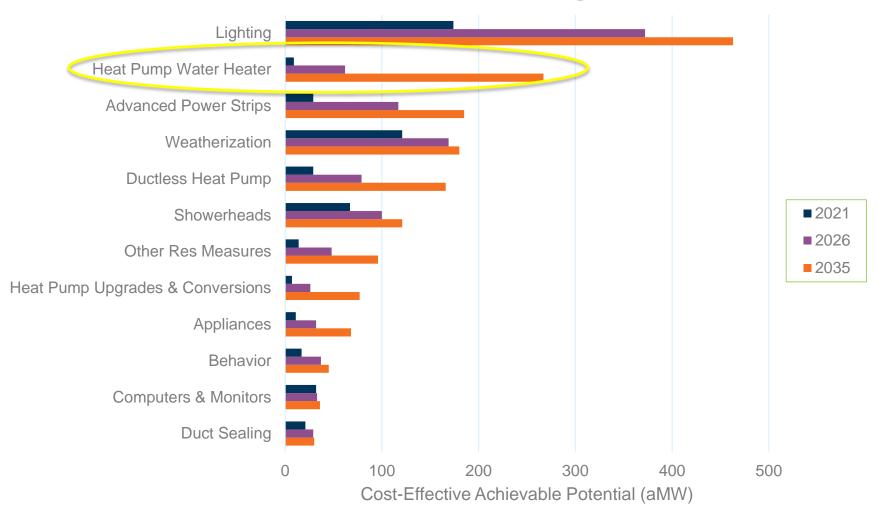


- Covers Idaho, Montana, Oregon and Washington
- Energy efficiency is now the region's second largest power resource

# Why HPWHs?

## NW Measure Savings Potential

#### **Residential Measure Categories**



### HPWHs Equal

Reliable energy savings

93% customer satisfaction

Over 100 qualified HPWHs



## Northwest Accomplishments

- Over 30,000 incented sales
- 87 NW HPWH utility programs
- Partnerships with all major water heater manufacturers and distributors
- Over 500 trained installers



# Midstream Key Ingredients

#### Go Midstream To...

- Influence price, stocking and marketing
- Engage deeply with installers to increase product adoption
- Increase consumer awareness and demand
- Rebate breakage





#### Market Actor Mix

**Manufacturer Collaboration** 

**Distributor Engagement** 

**Utility Participation** 

**Installer Buy-In** 

#### Key Ingredient: Distributor Buy-In

#### **Distributor Collaboration on SMIT framework:**

- Sales
- Marketing
- Inventory
- Training

#### **Tactics include:**

- \$40 per unit administrative payment for sales reporting and stocking
- Monthly sales data collection
- Engaging at branch levels



#### Key Ingredient: Instant Utility Rebates

- Utility rebates are key to overcoming first cost barrier
- Between \$300-\$500 in the region
- NEEA encourages instant delivery
  - » Energy Trust, Snohomish PUD and others embracing this design
  - » Identical program requirements
  - » Increases volume by 400-600%



# The Icing on the Cake: Installer Adoption

# Installer Pro Deal and Training



## Installer Pro Deal and Training

Step 1: Select high potential companies

Step 2: Interview company owner

**Step 3**: Provide participating companies free product

**Step 4**: Staff training – increase product knowledge

Step 5: Stay in touch!

#### Contractor Feedback - Sneak Peak

- Held a contractor workgroup 2 weeks ago
- Intent is to have contractor stakeholders support and provide input on materials
- It was a collaborative session with
   11 installers

Early results and takeaways are...



#### Contractor Feedback - Challenges

- Top challenges from contactor perspective:
  - Lack of consumer awareness
    - » Makes it hard to sell in emergency replacement
  - Lack of distributor support and focus on the technology
    - » Need product influencers at distributor level
    - » Training, marketing. free trial product etc.
  - Lack of product support from manufacturer
    - » Need more technical support
    - » Easy access to parts and servicing info



### Contractor Feedback - Training

- Top training content preferences
  - Marketing
  - Selling the value of HPWHs
  - Technology overview
  - Technology comparison
  - Installation training

### Contractor Feedback - Training

- Top training delivery preferences
  - Longer (over an hour), in person trainings with continuing education credits (CEUs)
  - Product direct-to-company mentoring with free product
  - Longer (over an hour), online training with continuing education credits
  - 30 minute online training
  - 30 minute in person training



#### Contractor Feedback - Marketing

- Top marketing support preferences
  - Direct mail postcard template
  - Social media videos
  - Product flyers
  - Online ads
  - Customer testimonial videos
  - Newspaper ad
  - Radio ad
  - Sales sheet
  - Image library
  - Pocket card
  - Technical install video



#### Lessons Learned

#### Lessons Learned

- Midstream program delivery most effectively addresses installer adoption and cost barriers and has great potential to increase sales volume
- Addressing cost barriers is not enough to transform the market
- It's imperative to get buy-in from local installers
- Consumer awareness is also a key ingredient



## **Questions?**



Thank You.



Lisa Boba
The United Illuminating Group

Empowering you to make smart energy choices

# Heat Pump Water Heater Program

ACEEE Hot Water Forum March 22, 2018

Lisa Boba - UI, SCG, and CNG







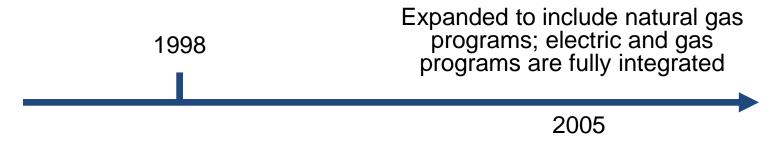


#### **Energize Connecticut**

- Energize Connecticut is the state's branding initiative to help consumers save money and use clean, affordable energy.
- A partnership of the Energy Efficiency Fund, the Connecticut Green Bank, Department of Energy and Environmental Protection (DEEP), the state and local electric and gas utilities.



#### **Energy Efficiency in Connecticut**



Created by legislature to provide costeffective electric energy efficiency and load management programs

#### **Objectives**

- To advance the efficient use of energy
- To reduce air pollution and mitigate negative environmental impacts
- To promote economic development and energy security

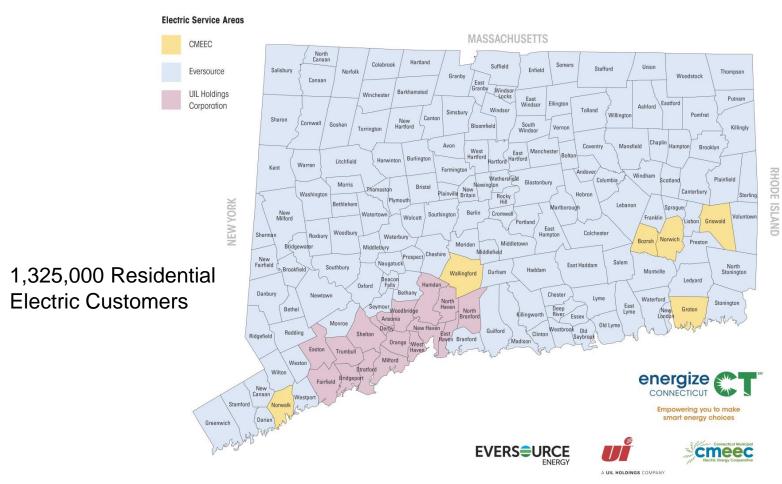


#### **Energize CT Incentive Programs**

- Residential New Construction
- Multifamily Initiative
- Residential HVAC and Water Heating Incentive Program
- Retail Products (Lighting and Appliances)
- Commercial & Industrial Programs



#### CT Service Territory: Electric





#### Residential Incentives - 2018



Product	Incentive	Details
Natural Gas Water Heaters	\$300	Tankless 0.94 EF+
	\$300	Condensing 95% TE
Heat Pump Water Heaters	\$500	or \$300 at retail with \$200 mail-in rebate to customer, (minimum EF 3.0)
Ductless Heat Pump	\$300-\$500	
Natural Gas Boiler	\$450	90-93.99% AFUE
	\$750	94%+ AFUE
Natural Gas Furnace	\$800	95%+ AFUE
Oil/Propane Furnace	\$250	85%+ AFUE for Oil 95%+ AFUE for Propane
Boiler Circulator Pump (Heating)	\$25	



#### Heat Pump Water Heater Details

- Energy Factor >= 3.0
- ENERGY STAR® certification required

energy STAR

- \$500 rebate at distributor
- \$300 at retail (with additional \$200 mail in)
- Lost Opportunity Savings Claimed:

1070 AKWH

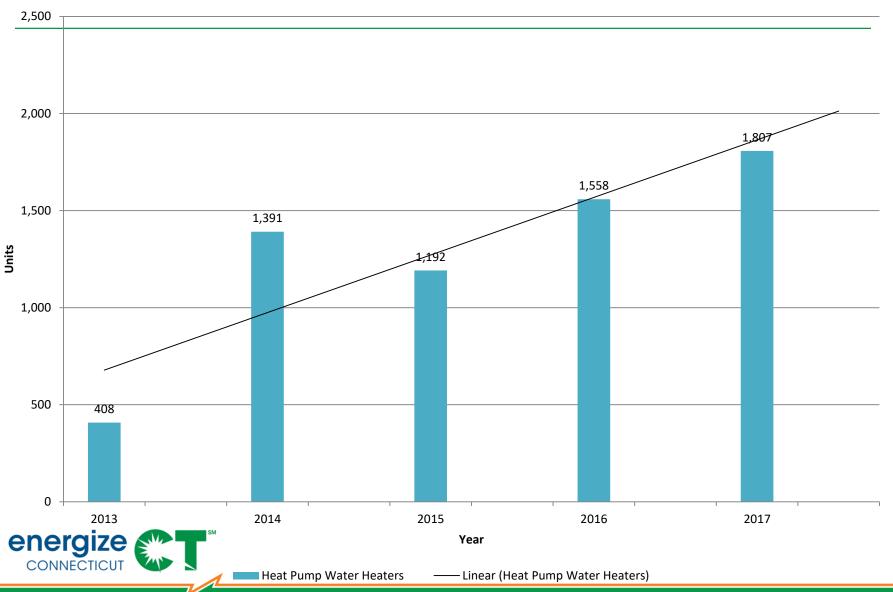
13 year life

0.021 peak KW (summer)

0.015 peak KW (winter)



#### **HPWH Program Activity**



#### Promoting HPWHs

- Key Messages
- Website
- Marketing Campaigns
- Public Relations
- Opportunities for Collaboration
- Field Implementation

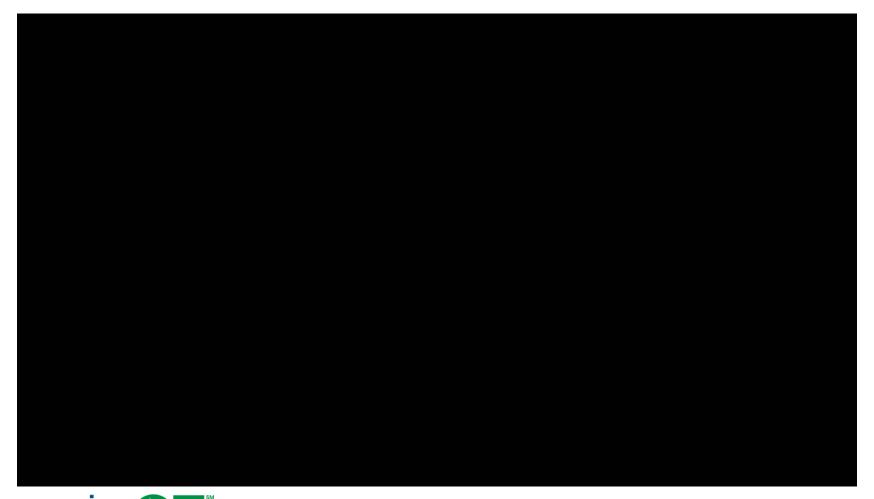


#### Key Messaging

- One of the most energy-efficient water heating systems on the market today
- 25 to 50 percent savings on electric water heating costs
- Programmable options such as "vacation mode" that save energy when you're away and ensure you have hot water when you return
- Dehumidify damp spaces such as a basement or unconditioned space



# Website





## Marketing

Social Media, Radio, Billboards, TV media buys



Don't be stuck without hot water this winter! Avoid costly expenses by replacing your ineffeicient water heater before it's too late. Numerous options are available including a heat pump water heater which can cut energy costs by 50%. Receive up to \$600 in instant rebates and discounts.



ENERGY STAR® Heat Pump Water Heater Rebate
Get up to a \$600 instant discount for replacing your...



**EnergizeCT.com** 















### **Public Relations**





Empowering you to make smart energy choices

"With the money saved from switching to a heat pump water heater, we can finally start planning the European vacation we've been dreaming of."

Jermaine Jorge, Homeowner



# Collaboration- Technical High Schools

- E-House initiative allows students to build a model home and install EE equipment
- Great media story!





# Collaboration - Energize CT Center



### High-Efficiency Heat Pump Water Heater

#### **HOW DOES IT WORK?**

Heat pump water heaters deliver hot water twice as efficiently as standard electric water heaters by transferring heat rather than creating it. The heat pump takes heat from the surrounding air and transfers it to water in an enclosed tank.

#### **POTENTIAL SAVINGS:**

High-efficiency heat pump water heaters can save a household of 3 approximately \$370 per year on electric bills compared to a standard electric water heater. Larger families that typically use more hot water will save even more. They also remove moisture from the air, so you may not need a dehumidifier!





# Targeted Direct Mail Partnerships:





- Target Audience (~145,000 customers) :
  - Past Home Energy Solutions program participants
  - Electric WH customers
  - Towns without gas services



### Distributors and Contractors

- Front line, direct contact with customers
- Annual program roll out and regular communications
- Utility responsiveness
- 2017 Customer Survey
  - 36% heard about discounts from contractor
  - 15% from Energize CT marketing efforts
  - 61% reported that contractor recommended EE equipment
  - 95% satisfaction with EE equipment



# Field Implementation

- Regular visits to retail/distributors
- Point of Purchase (POP) placement
- Customer interaction
- Counter day or in store tabling







# **Key Take-aways**

- Focus on consumer education
- Look for opportunities to collaborate
- Value your contractor base
- Leverage other energy efficiency or community programs



### Questions?

Lisa Boba- UI, SCG, CNG

lisa.boba@uinet.com

203-499-2660

EnergizeCT.com/hpwh



### **Discussion**

### **Contact Information**

#### **Alice Rosenberg**

Consortium for Energy Efficiency arosenberg@cee1.org

#### **Allison Robinson**

Cadmus Group

allison.robinson@cadmusgroup.com

#### Lisa Boba

United Illuminating Company lisa.boba@uinet.com

#### Jill Reynolds

Northwest Energy Efficiency Alliance jreynolds@neea.org

#### Rosemarie Stephens-Booker

**ENERGY STAR Water Heaters** 

Stephens-Booker.Rosemarie@epa.gov