Transforming the HVAC and Water Heater Market Through Various Incentive Programs - HVAC Midstream and Instant Rebates at Retail

Nate Jutras
2018 ENERGY STAR Products Partner Meeting
September 7, 2018
Phoenix, AZ
Understanding the Fundamentals

- Curtail traditional 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 mail-in rebates.
- Shift rebate to distributor
  - Cooperative agreement with distributor to pass along discount to contractor.
### Midstream Incentives – Dramatic Increases in Program Participation

<table>
<thead>
<tr>
<th>Efficiency Program</th>
<th>Measure</th>
<th>Incentive Amount</th>
<th>Increase in Program Participation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>energy MAINE</strong></td>
<td>ENERGY STAR Certified Heat Pump Water Heater (HPWH)³</td>
<td>$600*</td>
<td>423%⁴ (PYI)⁵</td>
</tr>
<tr>
<td><strong>Efficiency Vermont</strong></td>
<td>ENERGY STAR Certified HPWH⁶</td>
<td>$300/$500**</td>
<td>750%⁷</td>
</tr>
<tr>
<td></td>
<td>ENERGY STAR Certified HPWH⁸ and Natural Gas Water Heaters⁹</td>
<td>$300 for gas; $600 for HPWH</td>
<td>1000%¹⁰ (PY₂)</td>
</tr>
<tr>
<td></td>
<td>ENERGY STAR Certified Natural Gas Boiler and Furnaces¹¹</td>
<td>$450 to $800</td>
<td>234% (PY₂)</td>
</tr>
<tr>
<td><strong>energize CT</strong></td>
<td>ENERGY STAR Certified HPWH¹² and Natural Gas Water Heaters¹³</td>
<td>$100 for gas; $300 for HPWH¹⁴</td>
<td>Just began program in 2017</td>
</tr>
</tbody>
</table>
Why Midstream Works

• **Program administrator:**
  – Eliminates rebate breakage and increases participation by order of magnitude.

• **Manufacturer:**
  – Sells more higher profit energy efficient water heaters.

• **Distributor:**
  – Receives **Larger profit** per efficient water heater sold.
  – An “**administrative fee**” to ease incentive application burden.

• **Plumber:**
  – Receives incentive instantly without burdensome paperwork.

• **Homeowner:**
  – Obtains efficient equipment.
EPA is Ready to Help You Swim to Midstream with HVAC and HPWH

ENERGY STAR certified HVAC equipment and water heaters are an excellent opportunity for significant energy savings for utilities!

- The best way for utilities to capitalize on water heater savings is through midstream incentive and instant rebates at retail programs.
- ENERGY STAR can help you get started with resources, best practices and the midstream leaders of the Technical Advisory Group (TAG)
Distributor-Focused Midstream Website

Distributor-Focused Midstream Programs: The Key to Unlocking Residential Water Heater and HVAC Savings

Recently, energy efficiency program administrators have provided incentives up the supply chain to a "midstream" market actor – the wholesale distributor – resulting in sales doubling, and in some cases, increasing ten-fold for ENERGY STAR certified water heaters and HVAC. Click on "How It Works" below to be introduced to the basic concepts behind distributor-focused midstream programs. The following pages will give insight to the remarkable increases in program participation, and a helpful understanding of why the programs are so successful. You'll also be able to review best practices and key resources gathered from program implementers.

Next: How it Works

<table>
<thead>
<tr>
<th>Expert Advice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact us at: <a href="mailto:midstreamdistributor@energystar.gov">midstreamdistributor@energystar.gov</a></td>
</tr>
<tr>
<td>to set up a call with ENERGY STAR and the Technical Advisory Group.</td>
</tr>
<tr>
<td>The group includes:</td>
</tr>
<tr>
<td>- AO Smith</td>
</tr>
<tr>
<td>- CLEAResult</td>
</tr>
<tr>
<td>- Energize CT</td>
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<tr>
<td>- Energy Solutions</td>
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<tr>
<td>- Energy Trust of Oregon</td>
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<tr>
<td>- NEEA</td>
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<tr>
<td>- SDG&amp;E</td>
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<td>- VEIC</td>
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</tbody>
</table>
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:
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
Next Up....

- Lessons learned from HVAC distributor-focused midstream pilots from SDG&E and CLEAResult.
Any Questions?

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    • Allison.Robinson@cadmusgroup.com
    • 503-467-7102
  – Robert Huang
    • Robert.Huang@cadmusgroup.com
    • 617-673-7117
• Midstream Website:
  www.energystar.gov/products/retailers/midstream_programs
Market Transformation in California
Third-Party Statewide HVAC and Water Heating Programs

Shoshana Pena and Nathan Bauer-Spector
Utility Program Managers – San Diego Gas & Electric

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Shoshana Pena and Nathan Bauer-Spector
Shoshana Pena and Nathan Bauer-Spector are program managers for San Diego Gas & Electric’s various Plug Load and Appliance programs. In 2017, they launched the first instant validation tool for in-store instant utility rebates, doubling the number of smart thermostats for the program, improving cost-effectiveness and increasing program delivery efficiency.

In 2018, SDG&E was approved by the California Public Utilities Commission to manage the launch of a statewide plug load and appliance program. Shoshana and Nathan will lead this effort on behalf of all investor-owned utilities in the state with a goal of launching by Q3 2020.
San Diego Gas & Electric
HVAC Today

**Residential Midstream/Upstream HVAC**

Distributor stocking program
- Incentive to distributors for stocking High SEER units
- Low realization rates (18%)

Refrigerant Charge program
- 50% of all A/Cs suffer from improper charge or air flow problems

Economizer
- Load impact study (DNV GL) - only 75% of economizers were operational shortly after installation

**Residential Downstream HVAC**

**Quality Installation** offers $666 - $2,085 depending on tonnage and the efficiency to reduce installation cost.

**Quality Maintenance** offers $50 System Assessment & Improvement, including diagnostic report.

Historically, programs targeting maintenance and installation aspects of the HVAC market have been plagued with poor cost effectiveness, low realization rates, and minimal market participation.
Statewide Programs
Key Regulatory and Legislative Policy Drivers

California State Senate

**Senate Bill 350: The Clean Energy and Pollution Reduction Act of 2015**

Addresses workforce development and job training in disadvantaged communities: “Authorize market transformation programs with appropriate levels of funding to achieve deeper energy efficiency savings.” Commission staff white paper or proposal regarding market transformation expected Dec 2018.

California State Assembly

**Assembly Bill 793**
Guidance for leveraging upstream and midstream partnerships to increase availability and reduce the cost of energy management technologies.

**Assembly Bill 758**: Increase plug load efficiency and access to data, partnering to increase awareness

**Assembly Bill 032**: Reduce statewide Greenhouse Gas (GHG) emissions to 40% below the 1990 level by 2030

**Assembly Bill 802**: Allows stranded potential to be targeted and savings to be measured at the meter

California Public Utilities Commission

**Decision 18-01-004 – January 11, 2018**
Third party solicitation process for energy efficiency programs

**Decision 18-05-041 May 31, 2018**
CPUC decision approving energy efficiency rolling portfolio business plans.
## Statewide Programs

### Lead Utility Assignments*

<table>
<thead>
<tr>
<th>Program Category</th>
<th>Lead CA Utility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midstream Plug Load &amp; Appliance</td>
<td>San Diego Gas &amp; Electric</td>
</tr>
<tr>
<td>HVAC Upstream Residential &amp; Commercial</td>
<td>San Diego Gas &amp; Electric</td>
</tr>
<tr>
<td>HVAC Quality Installation &amp; Maintenance</td>
<td>San Diego Gas &amp; Electric</td>
</tr>
<tr>
<td>New Construction</td>
<td>Pacific Gas &amp; Electric</td>
</tr>
<tr>
<td>Workforce Education &amp; Training</td>
<td>Pacific Gas &amp; Electric</td>
</tr>
<tr>
<td>New Finance Offerings</td>
<td>SoCalGas</td>
</tr>
<tr>
<td>Midstream Commercial Water Heating</td>
<td>SoCalGas</td>
</tr>
<tr>
<td>Emerging Technology (Gas)</td>
<td>SoCalGas</td>
</tr>
<tr>
<td>Emerging Technology (Electric)</td>
<td>Southern California Edison</td>
</tr>
</tbody>
</table>

*List is abbreviated and does not contain all statewide program assignments. Please see California Public Utilities Commission Decision 18-05-041 for more information.
Statewide Programs
Pending CA Senate Bill 350

Deemed Rebates and Market Transformation

The statewide PLA and HVAC programs may include a mix of traditional customer-facing rebate program delivery as well as unique approaches to influence the market toward strategic long-term widespread market adoption of energy efficient products.

Deemed Rebates

Participation:
Utility-Targeted Customers (Verified Participants)

Results:
Short-Term

Savings:
Deemed Measures (Current Approach)

Adoption:
Customer-Level Adoption

Market Transformation

Participation:
Strategic Market Intervention (Unknown Participants)

Results:
Long-Term

Savings:
Modeled Market Projections (Pending SB-350)

Adoption:
Widespread Market Adoption
Residential HVAC
Midstream
The HVAC Market landscape
HVAC Market Segments

**MARKET** | **HVAC UNIT TONNAGE**
--- | ---
RESIDENTIAL | < 5 TONS
SMALL COMMERCIAL | 5 - 25 TONS
LARGE COMMERCIAL | 25+ TONS

* Typical HVAC unit sizes by market segment

**SOURCE**
HVAC distributor interviews

*2016 HVAC Market Intelligence Booklet*
HVAC purchasing today
Midstream solution

[Diagram showing the flow between Manufacturer, Distributor, HVAC / Plumbing Distributor, General Distributor, and other related parties.]
HVAC Supply Chain

‘2016 HVAC Market Intelligence Booklet (modified)
The residential midstream HVAC Opportunity
Measure Prioritization

Residential Systems
- Packaged Units
- Ductless Heat Pump
- Gas Furnace (Central / Wall)
- Central AC
- Air Source Heat Pump

Components
- Motors and drives
- Thermostats
- In Home Displays
Residential Stakeholder Opportunity

- Retail + Midstream = Residential Market
- Not every contractor participates downstream.
- Not every customer participates downstream
Residential Specific Challenges

- Product Eligibility of split systems
- Cannot mitigate the incremental cost
- Residential customers care more about getting the incentive than C&I
- Multifamily Attribution / Eligibility Verification
- Complex Supply Chain / Market Equity
- Sales staff turn over and commission impact
- Contractors are constrained by what is available to them that day for R.O.B. (distributor stocking)
Residential Specific Challenges

- AHRI split system:
  
  ![Diagram of AHRI split system]

- 1000 condenser models × 1000 indoor coils × 100 Motors = $\sqrt{-1}$

- Consider using condenser efficiency and adjusting savings to simplify the process.
Residential Specific Challenges

- Incremental Cost:
  
  
  
  + wings = 
  
  
  $1,000+/Ton - $250 Rebate = low 5%-10% Retail discount

- A $250 Smart Thermostat has a higher perceived value with residential customers + DR Synergy!
Residential Specific Challenges

- Contractors are vested and engaged:
  - They don’t want to feel cut out. They are still the primary advocate with the end customer

- Ensure MFG training on how to sell high E is available and that there is a clear message and guidance for how they participate
Residential Specific Challenges

- **Distributor Stocking / Incentive Structure:**

  - Flexible Incentives yield highest participation. 100% pass through is lowest.

  - Distributors must believe they will recoup the cost of participation and make more money. Stocking will change once they believe there will be more demand.
Residential Specific Challenges

- Distributor Sales Staff:
  - Distributors must make changes to commission structure to not impact their sales staff.
  - Even once the distributor company can fix sales commission impact, sales staff may need further convincing. Consider gift cards or sporting event tickets.
Leveraged relationships create positive results

- Showcase EE products and offer an easy solution to overcome the first cost barrier
- Allows them to continue to purchase products through their preferred source
- Provide incentives, tools and training to help Distributors and Contractors/Installers drive sales for EE products
- Provide better value to customers by helping them reduce energy costs
Benefits to you and your customers

- Maintain strong Residential relationships and increase their ease to participate
- Leverages distributor sales staff and relationships with customers
- Drives attribution and brand awareness of utility sponsorship
- Get savings not captured by prescriptive programs
- Drives increased sales of efficient products
- Provides sales data and assurance that incentives offered only to qualified utility customer
Elements of a successful Midstream program

- Start with Plug and Play measures
- Make participation easy
- Define data needs early
- Establish and maintain strong channel partner relationships
- Provide ongoing channel partner support
- Residential needs more engagement at each step in the supply chain
General Program Results

• Consistently achieves broader market reach
• Not always more cost effective up front
• Rounds out a market transformation effort by engaging distribution
Thank you

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“Transforming the HVAC and Water Heater Markets through Various Incentive Programs:

HVAC Midstream Programs and Instant Rebates at Retail for HPWH”
The look when you find out that mail-in rebates are no longer a thing and it’s not 1976 anymore.
OUR PURPOSE

To create a more sustainable future.

OUR MISSION

We motivate and enable people to take energy-wise actions, while helping utilities be a part of the clean energy ecosystem.
Simple Energy’s Technology in Use

Connecting utilities to thousands of brick & mortar stores and online channels
“Meeting people on the channels where they are shopping and buying, whether it’s in a physical store or an online store or on social media, and connecting the dots between those channels. The purpose is to keep customers moving around within the brand ecosystem, with each channel working in harmony to nurture more sales and engagement.”
A Google Study on the High Value Traveler

How brands are winning loyalty from today’s frequent travelers

Three ways travel brands can win loyalty:

1. Deliver assistance from the very first touchpoint
2. Put the traveler in control
3. Enable and augment the traveler experience

Three ways utilities can win loyalty:

1. Deliver omnichannel experiences
2. Put the customer in control
3. Enable and augment the utility experience
Transforming the Rebate Process

Utilizing technology to meet the customer where they shop

<table>
<thead>
<tr>
<th>Post-purchase rebates</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Archaic solution</td>
</tr>
<tr>
<td>• Limited motivation for the customer</td>
</tr>
<tr>
<td>• Very low utility attribution</td>
</tr>
<tr>
<td>• Low customer satisfaction</td>
</tr>
<tr>
<td>• No one buys stamps anymore</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Validated instant rebates</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Incentive at the Point of Sale</td>
</tr>
<tr>
<td>• Removes large financial barrier to entry</td>
</tr>
<tr>
<td>• Where customers are shopping – on their smart phones</td>
</tr>
<tr>
<td>• Customers demand technology</td>
</tr>
<tr>
<td>• Safe, accountable, and attributable</td>
</tr>
<tr>
<td>• High customer satisfaction</td>
</tr>
</tbody>
</table>
Duke Instant Rebates at Lowe’s

Providing rebates for heat pump water heaters in retail

- Launched Q1 2018
- Validated instant rebates at Lowe’s
- Heat pump water heaters
- $350.00 instant rebate to use at checkout

In less than 4 months being live, Instant Rebates account for over 30% of Duke’s YTD total
Experience built on technology

Enables customers to seamlessly validate and redeem rebates for energy-saving products
>5x higher annual net kWh savings for t-stats sold through the Xcel Energy Store compared to retail channels

26% lower free ridership for t-stats sold through the Xcel Energy Store compared to Mail-in rebates

* Nexant study conducted on Xcel Energy Smart Thermostat pilot
What did we learn?

*Customers expect instantaneous & on-demand experiences*

- The emergence of Amazon, Uber, etc. created an “on-demand” economy
  
  *Create new and innovative ways to engage with your customers*

- Meet the customer WHEREVER they shop
  
  *Offer an omnichannel strategy to meet the customer where they shop*

- New metrics not seen in retail before
  
  *Offer your rebate measures in a meaningful way*

- Price elasticity is an increasingly valuable tool in determining rebate amounts
  
  *Energy efficient products & deemed savings are important, but consideration to price elasticity and buying personas is extremely valuable*
Why should utilities choose validated instant rebates at retail?
Do you want to send in your $25 rebate now?
Utility Instant Rebates for ENERGY STAR Water Heaters
A. O. Smith ENERGY STAR Portal

- Product knowledge
- Sales videos
- Sales literature
- Lifestyle images
- Utility rebates

https://www.hotwater.com/utility-programs/
Sales/Training Tools

Counter Display
Dimensions
8.5”x14”

Heat Pump Shells

Product Training

Consumer Brochure/Tear-pads

Distributor Email template

Pocket Guide
2018 Instant Rebates for Heat Pump Water Heaters [HPWH]

20 States+ and counting...Join the movement!
Engage Builders and Energy Raters


.....Same or more HERS points than a 0.93 UEF tankless gas condensing water heater; More HERS points than a 0.82 UEF tankless gas non condensing water heater.

.....More HERS points than an HVAC system upgrade from 14 to 15 SEER and 8.2 to 9 HSPF.

Water heaters....Low upgrade cost/HERS ratio
A. O. Smith ENERGY STAR Water Heaters at Lowe’s

Electric Heat Pump
Gas Storage
Condensing Tankless gas
Markdown @ Lowe’s

Save more with an A.O. Smith® Electric Heat Pump Water Heater and your local utility company. $500 Instant Rebate Included In Price*

*Rebates cannot exceed purchase price of unit. Rebates good for qualified customers only. The costs of energy efficiency programs are recovered through a rate adjustment approved by the Public Utility Commission of Ohio (PUCO) and included in the composite rate of 12% of 2006. For a complete list of commercial, industrial, residential and non-residential energy-efficiency programs, please visit energy.gov/ohio. Lowe’s is not responsible for fulfillment of rebate.
Validated Instant @ Lowe’s
Lowe’s Store Associate Training

50 Gallon Standard Electric

50 Gallon Electric Heat Pump

6 6-Year Limited Warranty 1-Year Limited Labor
60-1/2-inches tall 20-1/2-inches wide
1981 gals. 102.7 cm. tall
3-4 People
73 Gallon First Hour Delivery

555 Estimated Annual Cost

10 10-Year Limited Warranty 2-Year Limited Labor
63-inches tall 22-inches wide
500 lb. 113 kg.
3-4 People
76 Gallon First Hour Delivery

$163 Estimated Annual Cost

Need it installed? Call 1-877-GO-LOWE or go to lowes.com/waterheaters

VS

Need it installed? Call 1-877-GO-LOWE or go to lowes.com/waterheaters
Bringing Consumers to Lowe’s
A. O. Smith Consumer Video

"High-efficiency water heaters can save you up to eleven hundred dollars instantly..."

"...while significantly reducing the cost of your monthly utilities bill."

"You could stage an over-the-top pizza party with that kind of dough."

"Go to hotwater.com/water-heater-incentives"
In Summary

• Switch to instant rebates now, it takes time to successfully launch

• Offer markdown and validated instant at Wholesale and Retail; Engage builders and energy raters

• Partner with Manufacturer Sales Agencies to engage distributors, train contractors and store associates

• Advertise.....Develop and communicate Outreach plan