Market Madness
Coordinating Supply Chain Players on the HPWH Court

ACEEE Hot Water Forum
Water Heating, Distribution, and Use Efficiency

Hilton Portland & Executive Tower
Portland, OR • February 26 - 28, 2017

Howard Merson
Vermont Energy Investment Corp.
VEIC, Consulting
Vermont Energy Investment Corporation
About VEIC

- Nonprofit; 30 years of reducing economic & environmental costs of energy
- Comprehensive results
- Energy efficiency, renewable energy, & transportation
- Program design, planning & evaluation, policy, advocacy, and research
About VEIC

- 330+ employees
- National & international consulting / implementation
- Clients
  - Utilities, trade associations, government agencies, regulators, foundations, and advocates
Examples of VEIC’s Utility Clients
HVACR
Upstream
What is an upstream program?

- Manufacturer
  - Manufacturer Rep
    - Distributor
      - Contractor
        - End User
Benefits of Upstream

1. Promotes increased availability, sales, & installation of efficient equipment
2. Influences distributor stocking practices
3. Diminishes financial barriers
4. Facilitates market transformation
Participating Manufacturers

- Grundfos
- Armstrong
- Wilo
- Taco
- Bell & Gossett (a Xylem brand)
- AquaMotion
- Rheem
- RUUD
- State Water Heaters
- A.O. Smith
- American Water Heaters
- GE
- Bradford White

*The new degree of comfort.*
Participating Manufacturers

DAIKIN  Carrier  Haier

FUJITSU  MITSUBISHI ELECTRIC  Panasonic

QM POWER

In the future…
Upstream Distributors
16 Distributors, 48 Locations
HVACR
Upstream Approach
VEIC's Approach to Upstream

1. Project Planning
2. Establish Value Proposition
3. Mapping the Supply Channel
4. Eligibility & Performance Request
5. Data Collection
6. VEIC 101/201 Planning Sessions
7. Establish Incentive Levels
8. Administration / Management Fees
9. Develop SMIT Plans
10. PDA/MOU
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Understand Distributors’ Profit Model

Return on Net Assets (RONA) =

\[
\frac{\text{Distributor Net Income}}{\text{Inventory + Accounts Receivable} - \text{Accounts Payable}}
\]
# Distributors’ Profit Model

<table>
<thead>
<tr>
<th>RONA driver</th>
<th>Consideration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase gross margin (GM), gross profit (GP) &amp;</td>
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</tr>
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**Vermont Energy Investment Corporation**
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| Decrease inventory investment & increase turnover | - Collaborative sales & marketing  
- Intensive product & program training  
- Incentives increase market demand  
- NO manufacturer penalties |
| Accounts Receivable (AR) | - Avg. AR collection 50 - 55 days; Target < 35 days |
| Accounts Payable (AP) | - Avg. AP terms 30 - 35 days; Target: 45 - 240 days |
## Distributor Value Proposition - HPCP

A strategic partnership

<table>
<thead>
<tr>
<th>Factor</th>
<th>Standard pump</th>
<th>HPCP pump</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resale from distributor to customer</td>
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<td>$100</td>
</tr>
<tr>
<td>Distributor cost (estimate)</td>
<td>$52</td>
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<td>$65</td>
<td>$65</td>
<td></td>
</tr>
<tr>
<td>Gross profit per circulator pump</td>
<td>$13</td>
<td>$44.75</td>
<td>$31.75</td>
</tr>
<tr>
<td>Gross margin per circulator pump</td>
<td>20%</td>
<td>27%</td>
<td></td>
</tr>
<tr>
<td>Gross profit generated from 10,000 units / year</td>
<td>$130,000</td>
<td>$447,500</td>
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</tr>
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</tbody>
</table>
### Distributor Value Proposition - HPWH

<table>
<thead>
<tr>
<th></th>
<th>Electric Resistance</th>
<th>HPWH</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resale from distributor to customer</td>
<td>$458</td>
<td>$1054</td>
<td>$596</td>
</tr>
<tr>
<td>Distributor cost (estimate)</td>
<td>$376</td>
<td>$850</td>
<td>$474</td>
</tr>
<tr>
<td>Gross profit per water heater</td>
<td>$82</td>
<td>$204</td>
<td>$122</td>
</tr>
<tr>
<td>Gross profit generated from 25,000 units / year</td>
<td>$2,050,000</td>
<td>$5,100,000</td>
<td>$3,050,000</td>
</tr>
</tbody>
</table>

**HPWH increase distributor value 150%**
VEIC’s Approach to Upstream

1. Project Planning
2. Establish Value Proposition
3. **Mapping the supply channel**
4. Eligibility & Performance Request
5. Data Collection
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TARGET: Use Supply Channel Approach

Manufacturers / Manufacturer Reps

Distributors
VEIC’s Approach to Upstream

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Optimize the Collection of Transactional Data

40

→

14

Vermont Energy Investment Corporation
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<th>Upstream program</th>
<th>Current incentive / unit</th>
<th>Current administration / management fee / unit</th>
<th>Comments</th>
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</table>
| HPWH             | $600                     | $65                                           | • Aggressive incentive & fee  
                                    • Sales under duress (95%)  
                                    • Small window of upsell opportunity |
# HVACR Upstream Incentives & Fees

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| HPWH             | $600                     | $65                                        | • Aggressive incentive & fee  
|                  |                          |                                            | • Sales under duress (95%)  
|                  |                          |                                            | • Small window of upsell opportunity |
| CCHP             | $600 single zone         | $50                                        | • Aggressive fee  
|                  | $800 multi-zone          |                                            | • Complex sale  
|                  |                          |                                            | • Inventory investment |
## HVACR Upstream Incentives & Fees

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<tr>
<th>Upstream program</th>
<th>Current incentive / unit</th>
<th>Current administration / management fee / unit</th>
<th>Comments</th>
</tr>
</thead>
</table>
| HPWH             | $400                     | $65                                           | • Aggressive incentive & fee  
|                  |                          |                                               | • Sales under duress (95%)  
|                  |                          |                                               | • Small window of upsell opportunity |
| CCHP             | $300 single zone         | $50                                           | • Aggressive fee  
|                  | $400 multi-zone          |                                               | • Complex sale  
|                  |                          |                                               | • Inventory investment |
| HPCP             | $50                      | $3                                            | • Tiered fee: $ / MWh  
|                  | $200                      | $3                                            |          
|                  | $600                      | $50                                           |          |
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SMIT: Sales, Marketing, Inventory & Training

- Internal / external stakeholder planning meetings
- RFI (Request for information) to suppliers
- Suppliers: Develop & present SMIT plan
- SMIT strategy planning sessions
SMIT Supply Channel Feedback

“The most comprehensive program for impacting the marketplace. We are proud to be asked to be a partner.”
– Distributor, VP-Residential Sales

“VEIC team, I want to thank you all for a great meeting and looking forward to working with you. Thank you again for your time and information shared.”
– Manufacturer, Division Sales Manager

“We, as manufacturers, look to you for guidance in what equipment to develop and bring to market. Efficiency Vermont is really a national leader on this.”
– Manufacturer, Regional Sales Manager
SMIT Examples
Joint Marketing Efforts

**Challenge:** Communicate end-user benefits of upstream programs to contractors & customers

**Solution:** Visual materials
HPCP Joint Marketing Efforts
High-Efficiency HVAC Products for the price of conventional
Funded by Efficiency Vermont

Everybody wins
Now you can provide the energy-efficient HVAC products your customers are looking for at deep discounts.

How does it work?
Efficiency Vermont awards the use of qualifying efficient products by paying rebates directly to distributors who pass the savings on to installers, who then pass these savings on to end-users.

How do customers benefit?
Distributors will buy energy-efficient products from Efficiency Vermont at a discount and sell them to installers at cost. The savings are passed down to end-users.

Call 888-921-5990 for more information.

More smart ways to save, brought to you by Efficiency Vermont:

- Heat Pump Water Heaters
- High Performance Circulator Pumps

Visit www.efficiencyvermont.com for more information.

Hybrid Water Heater Rebate
A Partnership between FW Webb - GE - Efficiency Vermont

In order to get Efficiency Vermont's $500 instant rebate at FW Webb for the purchase of a GE Geothermal Hybrid Water Heater, you will need to come to Webb with some basic information about the location where the equipment will be installed. Use the following checklist to ensure a smooth purchase.

Required Information:
- Purchase Type: 
  - New
  - Replacement
  - Replacing Natural Gas Water Heater
  - No
  - Replacing Electric Water Heater
  - Yes
- Bill To/Purchase Info: 
  - Company or Purchaser Name
  - Address
  - Phone
- Install Location: 
  - Residential
- Install Type:
  - Commercial

Requested Information:
- Install Location:
  - Customer Name
  - Phone Number
  - Number of Bedrooms (if applicable)
  - Primary space heat fuel type (Electric, LP, Oil, Wood/Biomass, or Other)
Upstream Website

Participating Distributors
QPLs
# Heat Pump Water Heater

## Participating Distributors

<table>
<thead>
<tr>
<th>Distributor Name</th>
<th>Phone</th>
<th>City</th>
<th>State</th>
<th>HPWH Manufacturer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blodgett Supply</td>
<td>802-229-5105</td>
<td>Montpelier</td>
<td>VT</td>
<td>Rheem</td>
</tr>
<tr>
<td></td>
<td>802-334-0151</td>
<td>Newport</td>
<td>VT</td>
<td></td>
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<tr>
<td></td>
<td>802-275-3402</td>
<td>Rutland</td>
<td>VT</td>
<td></td>
</tr>
<tr>
<td></td>
<td>802-295-3143</td>
<td>White River Junction</td>
<td>VT</td>
<td></td>
</tr>
<tr>
<td></td>
<td>802-864-9831</td>
<td>Williston</td>
<td>VT</td>
<td></td>
</tr>
<tr>
<td>Central Supply</td>
<td>603-348-5116</td>
<td>Lebanon</td>
<td>NH</td>
<td>RUUD</td>
</tr>
<tr>
<td></td>
<td>603-267-2338</td>
<td>Woodsville</td>
<td>NH</td>
<td></td>
</tr>
<tr>
<td>F.W. Webb Company</td>
<td>802-479-3373</td>
<td>Barre</td>
<td>VT</td>
<td>GE</td>
</tr>
<tr>
<td></td>
<td>802-457-2312</td>
<td>Bennington</td>
<td>VT</td>
<td><a href="http://www.ge.com">www.ge.com</a></td>
</tr>
<tr>
<td></td>
<td>802-797-4316</td>
<td>Barre</td>
<td>VT</td>
<td>Bradford White</td>
</tr>
<tr>
<td></td>
<td>802-775-1992</td>
<td>Rutland</td>
<td>VT</td>
<td></td>
</tr>
<tr>
<td></td>
<td>802-885-8127</td>
<td>Springfield</td>
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<td></td>
<td>802-327-0501</td>
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<td></td>
<td>802-768-8101</td>
<td>St Johnsbury</td>
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<td>Keene</td>
<td>NH</td>
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<td></td>
<td>603-448-7260</td>
<td>Lebanon</td>
<td>NH</td>
<td></td>
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<tr>
<td>The Granite Group</td>
<td>802-479-6229</td>
<td>Barre</td>
<td>VT</td>
<td></td>
</tr>
<tr>
<td></td>
<td>802-658-2747</td>
<td>Burlington</td>
<td>VT</td>
<td>State</td>
</tr>
<tr>
<td></td>
<td>802-323-1330</td>
<td>Newport</td>
<td>VT</td>
<td><a href="http://www.statewaterheaters.com">www.statewaterheaters.com</a></td>
</tr>
<tr>
<td></td>
<td>802-773-1309</td>
<td>Rutland</td>
<td>VT</td>
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<tr>
<td></td>
<td>802-383-0190</td>
<td>South Burlington</td>
<td>VT</td>
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<td>603-357-2100</td>
<td>Keene</td>
<td>NH</td>
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<td>603-442-6480</td>
<td>Lebanon</td>
<td>NH</td>
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<td>NH</td>
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## Participating Manufacturers:

- **AO Smith**
  - [www.aosmith.com](http://www.aosmith.com)

- **Bradford White**
  - [www.bradfordwhite.com](http://www.bradfordwhite.com)

- **GE**
  - [www.ge.com](http://www.ge.com)

- **Rheem**
  - [www.rheem.com](http://www.rheem.com)

- **RUUD**
  - [www.ruud.com](http://www.ruud.com)

- **State**
  - [www.statewaterheaters.com](http://www.statewaterheaters.com)

For more information, visit: [www.efficiencyvermont.com/hpwhpartners](http://www.efficiencyvermont.com/hpwhpartners)
HVACR
Upstream Results
Consolidated Results from Participating Vermont Distributors of High-Performance Circulator Pumps

Every 2.5 Days = TOTAL ANNUAL AVERAGE before Upstream Program!!
Distributor’s “Before & After” Upstream

HPCP as a % of CP Sales

- 2013: 0.5%

60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
Upstream vs. Downstream; Heat Pump Water Heaters

Units Sold

- Downstream Cumulative

Vermont Energy Investment Corporation
Upstream vs. Downstream; Heat Pump Water Heaters

Units Sold

- Upstream Cumulative
- Downstream Cumulative
Consolidated HPWH Participating Vermont Distributors’ Results

4,386 TOTAL Units
Jun '14 - Dec '16
## Efficiency Vermont Heat Pump Water Heater Metrics

<table>
<thead>
<tr>
<th></th>
<th>US</th>
<th>VT</th>
<th>VT %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>324,227,000</td>
<td>626,562</td>
<td>0.2% of Population</td>
</tr>
<tr>
<td>Annual # of HPWH Units</td>
<td>60,000</td>
<td>~3,600</td>
<td>VT: 6% of US Total HPWHs</td>
</tr>
<tr>
<td>HPWH Penetration %</td>
<td>2%</td>
<td>60%</td>
<td>+2900%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>BEFORE</th>
<th>AFTER</th>
<th></th>
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<tbody>
<tr>
<td>VT HPWH Penetration %</td>
<td>7%</td>
<td>60%</td>
<td>+750%</td>
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*BEFORE & AFTER Midstream*
Impact of the Upstream Program in 2015

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<th>HPWH</th>
<th>CCHP</th>
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<tr>
<td>Increase in Sales</td>
<td>8,550%</td>
<td>750%</td>
<td>50%</td>
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1) Business model
2) Front loaded
3) Strategic partnerships
4) Supply chain management
The National Distributed Products Platform (NDPP)
Objectives for NDPP

• Shorten timeline & reduce complexity

• Accelerate EE product sales based on SMIT upstream approach

• Substantially increase sales of efficient products included in the NDPP Platform

Utilities

Manufacturers, distributors, & contractors
Thank you!

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QUESTIONS?