The Great Migration: Moving Energy Efficiency Programs to Midstream

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Introduction

National Grid New York
- Natural gas heating and water heating market
- Savings opportunities
- Market actor roles

Commonwealth Edison
- Moving programs upstream
- Opportunities and challenges
- Lessons learned
Objectives

• Estimate sales of boilers, furnaces, and water heaters
• Understand stocking practices
• Investigate influence of key market actors

Methodology

• Survey of supply houses in Upstate New York
• Survey of contractors in Upstate New York
• The greatest opportunity for a midstream program intervention was in the residential sector.

• Residential units represented the largest share of supply house sales.

Supply House Sales of Natural Gas Heating and Water Heating Equipment in Upstate New York

- Boilers: 17%
- Furnaces: 38%
- Water Heaters: 46%

(n=41,442 units)
Supply House Sales by Equipment Efficiency

Efficiency Levels of Equipment Sold by Supply Houses

- Water heating equipment offered the largest savings opportunities
- Furnaces and boilers also offered untapped opportunities

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Standard Efficiency</th>
<th>High Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Heaters</td>
<td>61%</td>
<td>39%</td>
</tr>
<tr>
<td>Boilers</td>
<td>41%</td>
<td>59%</td>
</tr>
<tr>
<td>Furnaces</td>
<td>21%</td>
<td>79%</td>
</tr>
</tbody>
</table>

(n=18,957)  (n=6,903)  (n=15,582)
Can a Midstream Program Capture More Savings?

• The influence of the existing National Grid program is percolating up to distributors from the downstream incentives
  – About one-fifth of supply houses said they would stock less high-efficiency equipment without the existing downstream program
  – Four out of five of these supply houses indicated that the downstream program has influenced stocking of high-efficiency equipment

• Program influence on supply house stocking is likely to increase with a midstream intervention
  – Direct engagement with supply houses would deepen impact by motivating increased stocking of high-efficiency equipment
Supply Houses are a Key Source of Energy Efficiency Information

Types of Advice Given to Contractors by Supply Houses (n=23)

- Information on equipment sizing: 96%
- Information on equipment energy efficiency: 87%
- Information on equipment installation: 83%
- Information on different brands: 78%
- Other: 9%
Supply House Influence on Contractors

Supply house reported influence on contractors of equipment energy efficiency advice (n=23)

Contractor reported influence of supplier recommendations on energy efficient equipment purchases (n=41)
Conclusions

A midstream intervention could cast a broader net over the natural gas heating and water heating market.

• Deepen the influence on supply house stocking practices

• Leverage supply house relationships with contractors
Commonwealth Edison Study

Literature Review of Midstream Programs

Objectives

• Benefits and challenges of moving HVAC programs to a midstream intervention
• Lessons learned from implementing midstream programs

Methodology

• Review of 16 HVAC programs in over 11 states
Midstream HVAC programs can operate successfully in the residential or C&I sectors

• C&I programs tend to focus on small and medium, rather than large commercial systems

Programs that have shifted to midstream can increase savings and drive the market toward higher efficiency HVAC equipment

• By working through distributors, programs can reduce participation barriers and boost participation rates
Opportunities and Challenges

Customers

- Addressing the emergency replacement market
- Influencing the new construction market
- Reduced focus on end users
Lessons Learned

Program Design

• Conduct sufficient market intelligence
• Choose the best equipment to shift upstream
• Set the proper incentive structure and amount
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