



we are  **ICF**

Midstream Discussion

Created in collaboration with:

DTE Energy – Consumers Energy
Navigant Consulting – Cadmus

February 19, 2019

CADMUS

NAVIGANT



Midstream Programs

- **Energy Efficiency Program Design**
 - Types of Programs
 - Delivery Methods
 - Benefits of Midstream Platform
- **Midstream Presence**
 - Benchmarking
 - Midstream HVAC case studies
- **Evaluation**
- **Utilities – Where Are We Now**
 - DTE Energy
 - Consumers Energy

Types of EE Program Designs

Upstream

Utilized in retail environments

Lighting

Midstream

Predominant use with contractor-facing products

Pool Pumps
Boilers
Water Heaters

Downstream

Used in all segments

ENERGY STAR®
Appliances

EE Program Design Characteristics

Upstream

Manufacturer level incentives

Reduced price passed to distributors

No customer paperwork required

Incentive travels through entire value stream

Market transformation at manufacturing level

Midstream

Distributor level incentives

Reduced price passed to contractor or self installer

Distributor and installers collect customer data

Decreased barriers to participation

Market transformation at distributor stocking level

Downstream

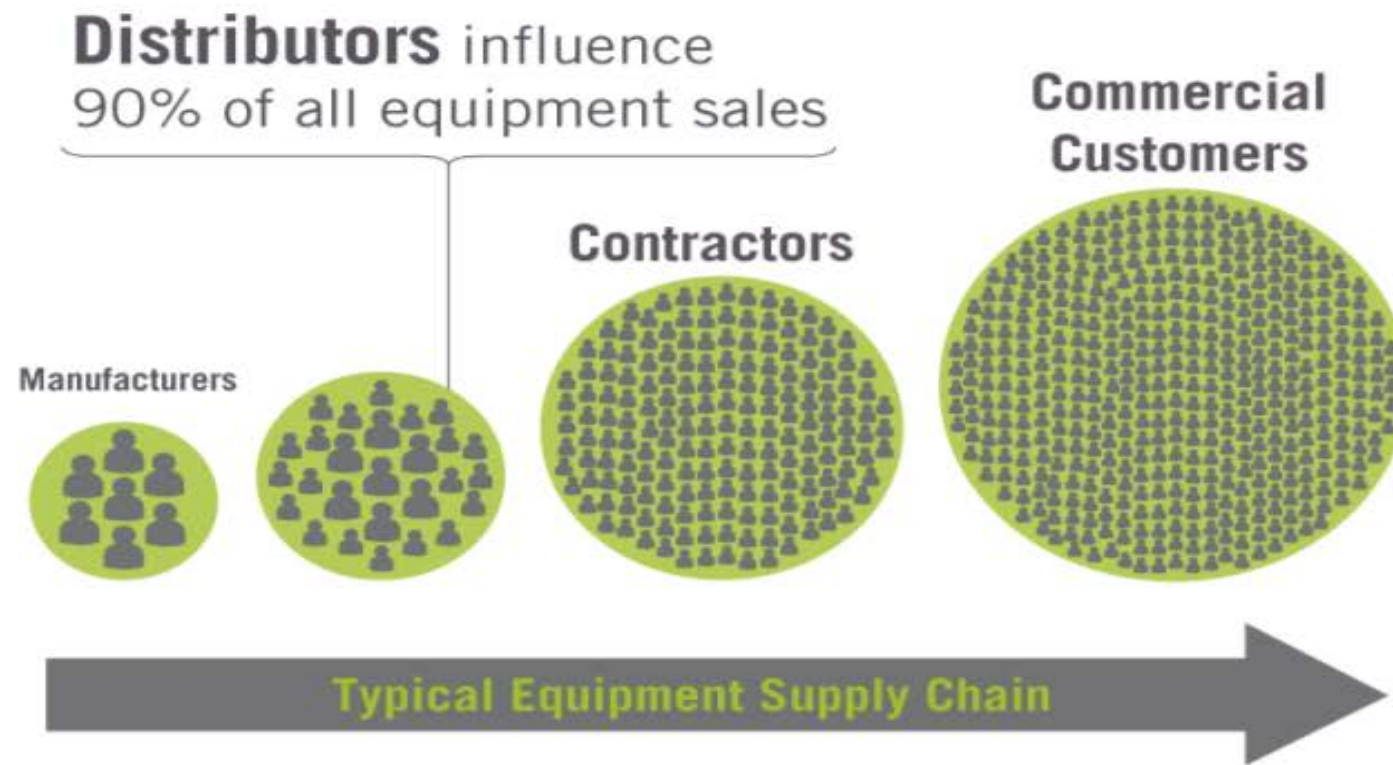
Customer level incentives

Document and data collected from customers

Higher administrative cost, burden on contractor and customer

Market transformation measured at customer level

Why Midstream?



IN STOCK = SOLD

90%

of transactions are influenced by distributors

81%

of buyers purchase what distributors recommended^{††}

4%

of buyers consider other efficiency tiers^{††}

70%

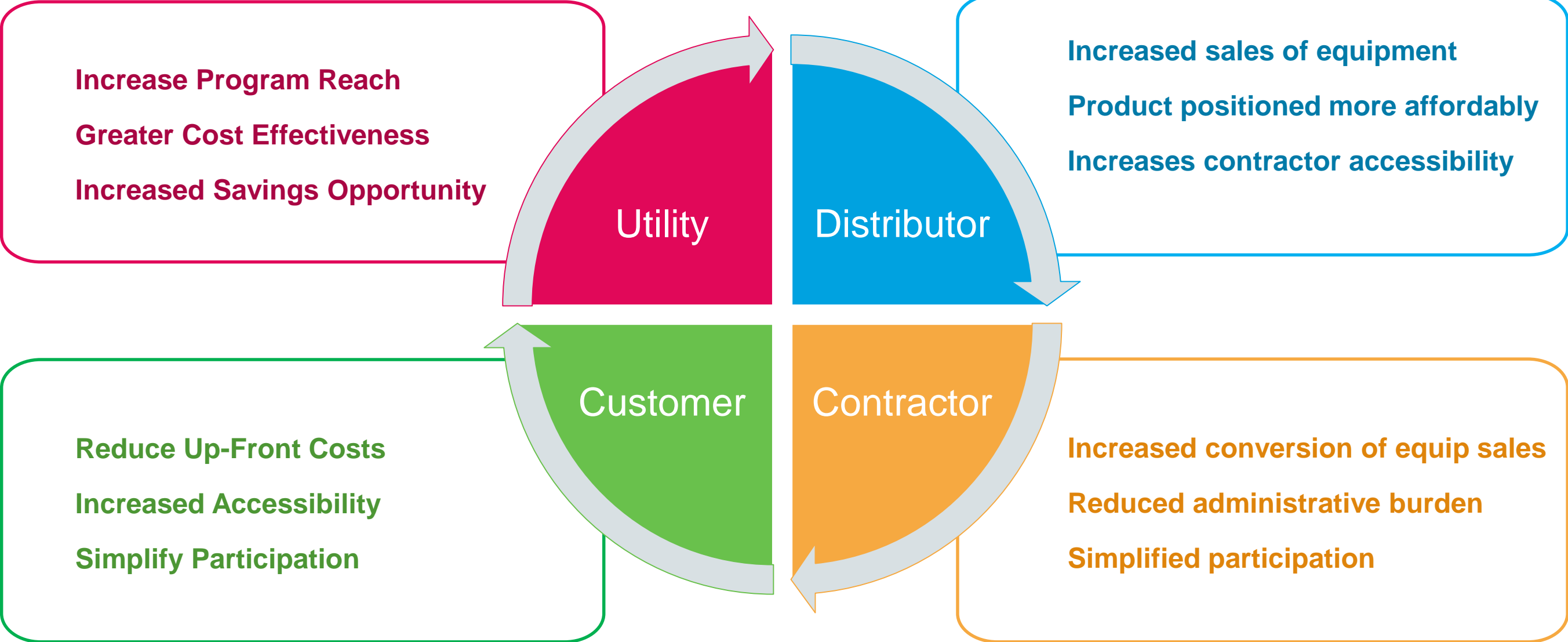
of some markets are “replace on burnout”

[†]Example for C&I HVAC Supply Chain

^{††}Source: California PUC NTG Study, September 2016



Benefits of ICF's Midstream Platform



National Presence

■ National Midstream Programs

- 49 programs in North America Utilizing midstream processes
- These programs span across multiple sectors
 - HVAC
 - Commercial Lighting
 - Consumer Electronics
 - Swimming Pool Industry
- Of the 49, 11 are HVAC midstream programs

ROCKY MOUNTAIN
POWER

XCEL ENERGY

DUKE ENERGY

CENTERPOINT
ENERGY

ENERGIZE
CONNECTICUT

CON EDISON

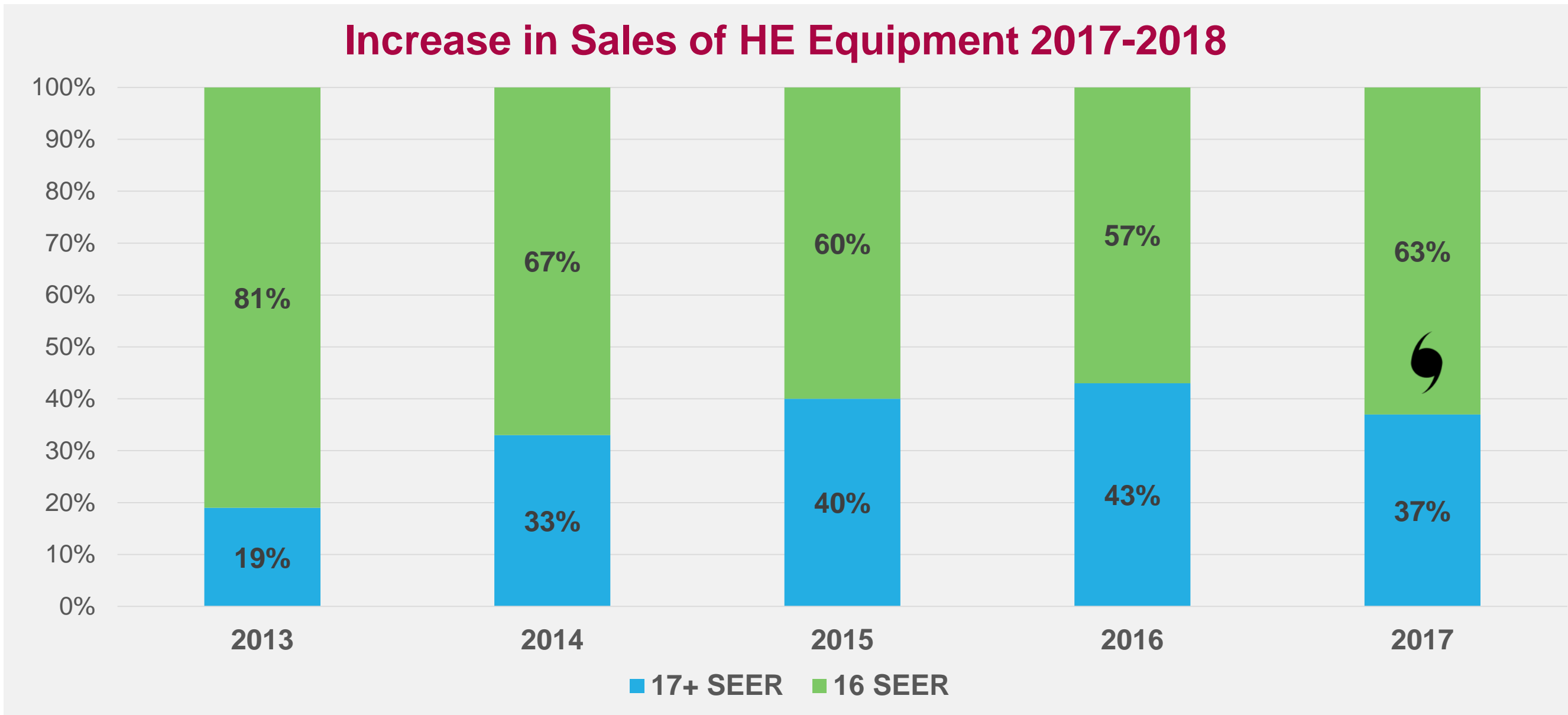
EFFICIENCY VERMONT

Case Studies

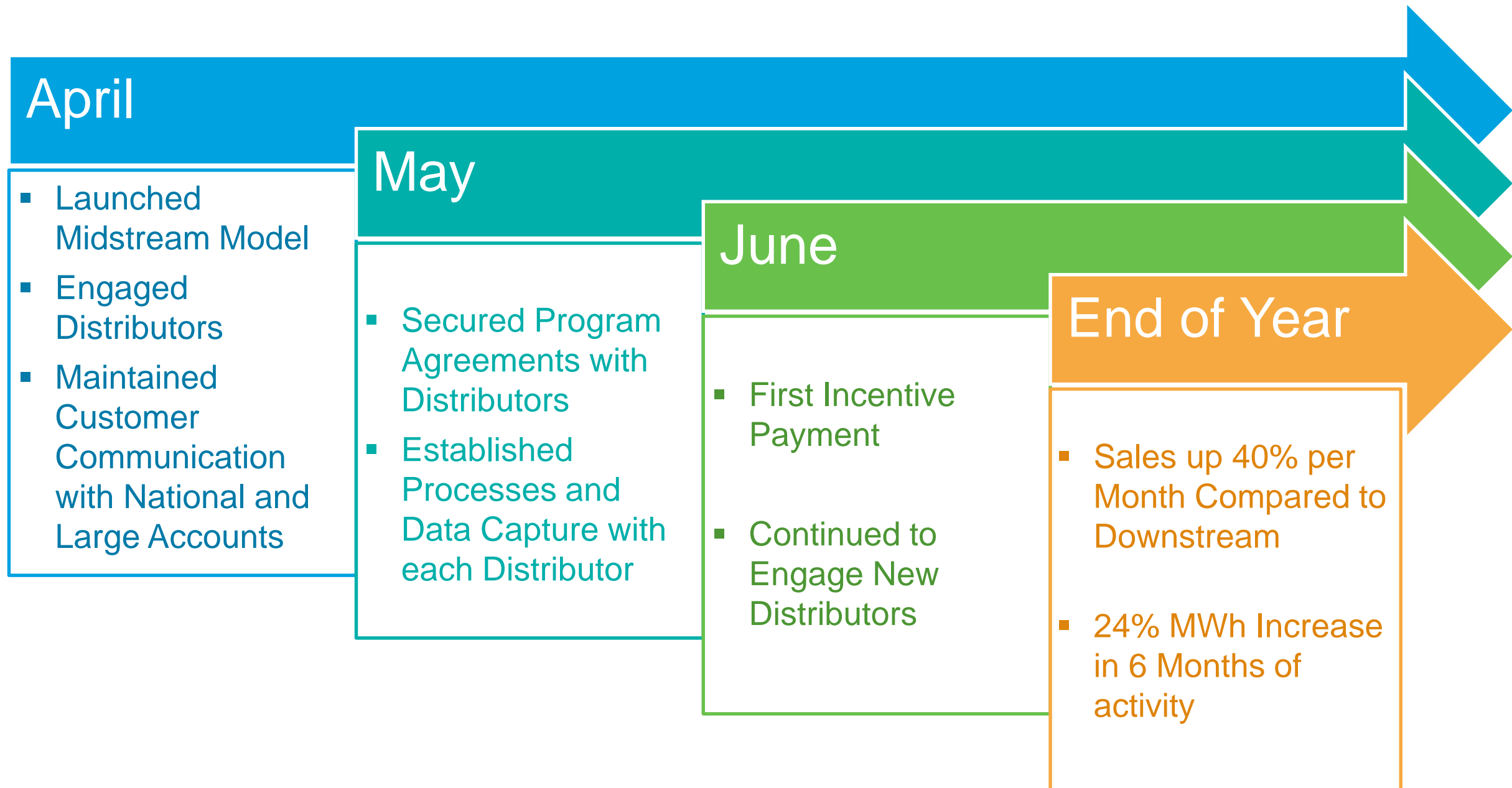
- CenterPoint Energy
- South East Utility
- Con Edison
- Efficiency Vermont

Midstream Incentive Flexibility Drives Market Transformation

Increase in Sales of HE Equipment 2017-2018

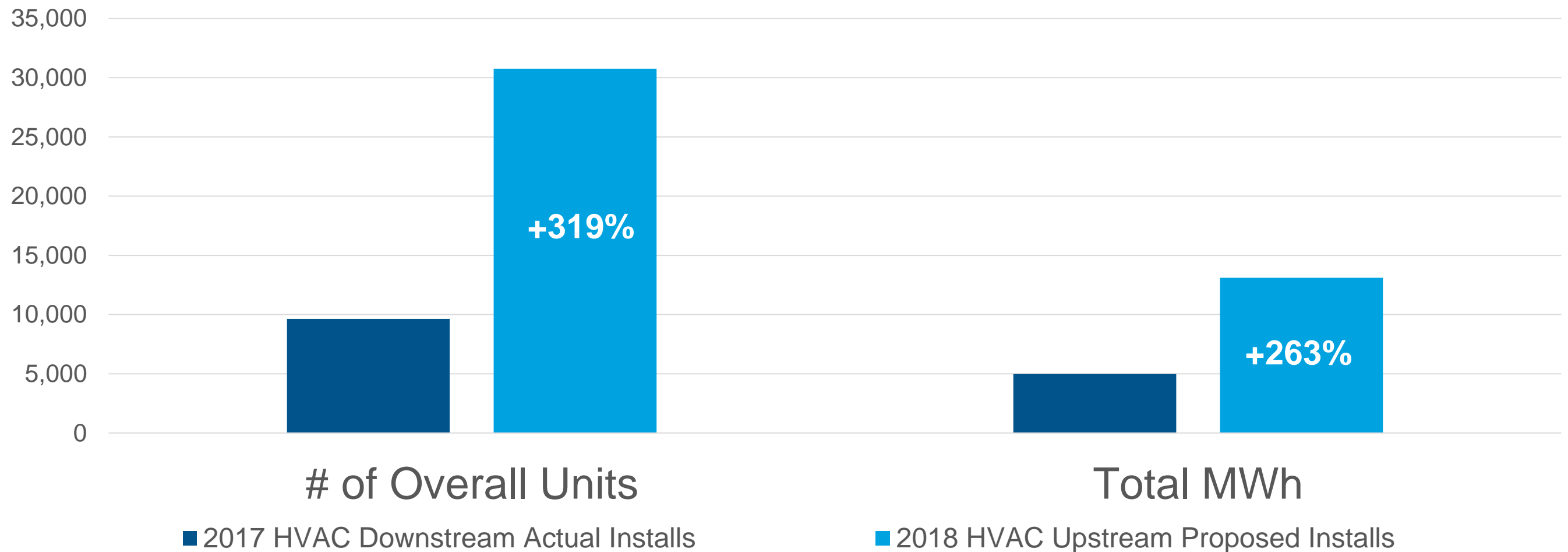


Commercial HVAC Program for a SE Utility

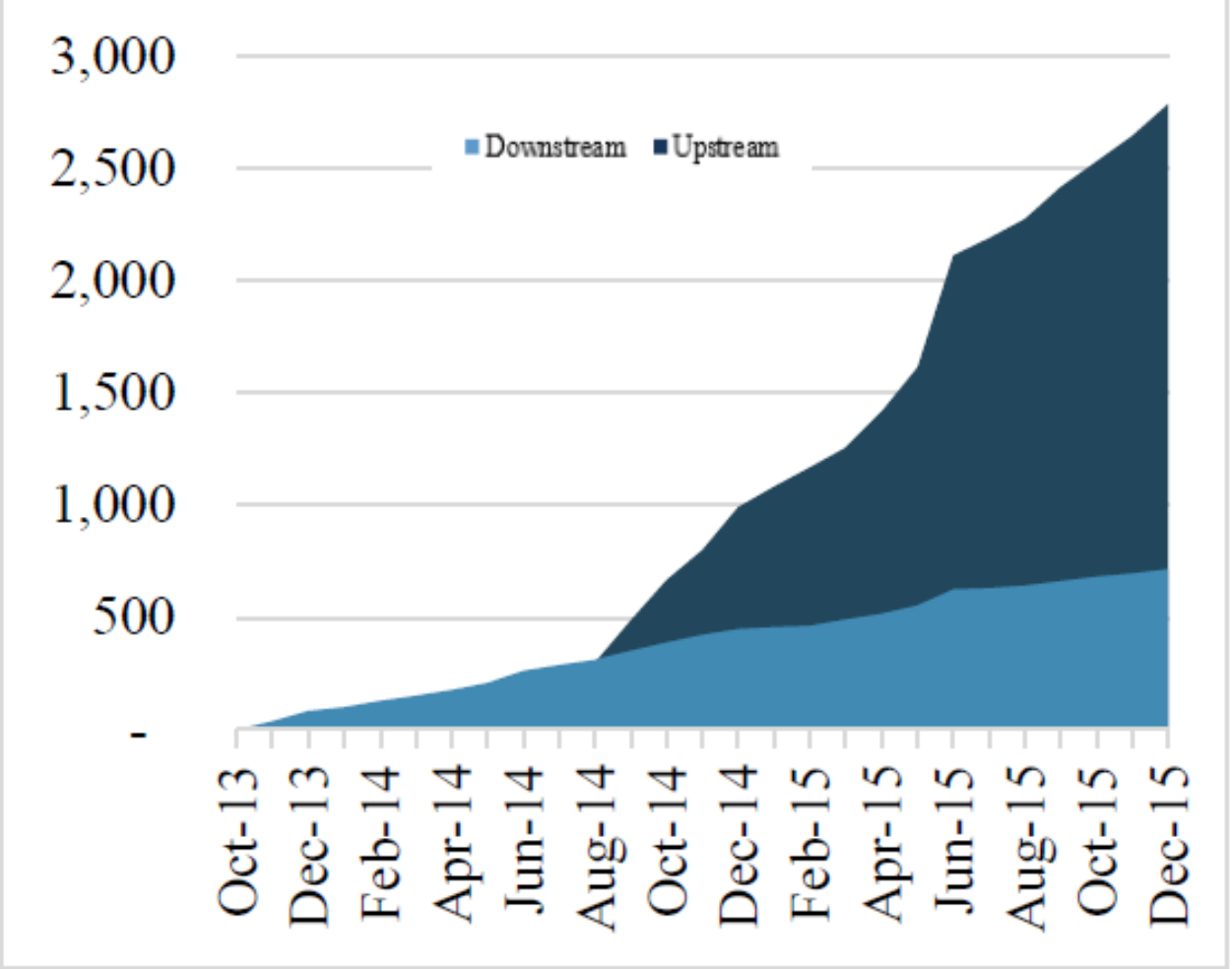


Residential HVAC Program for Con Edison

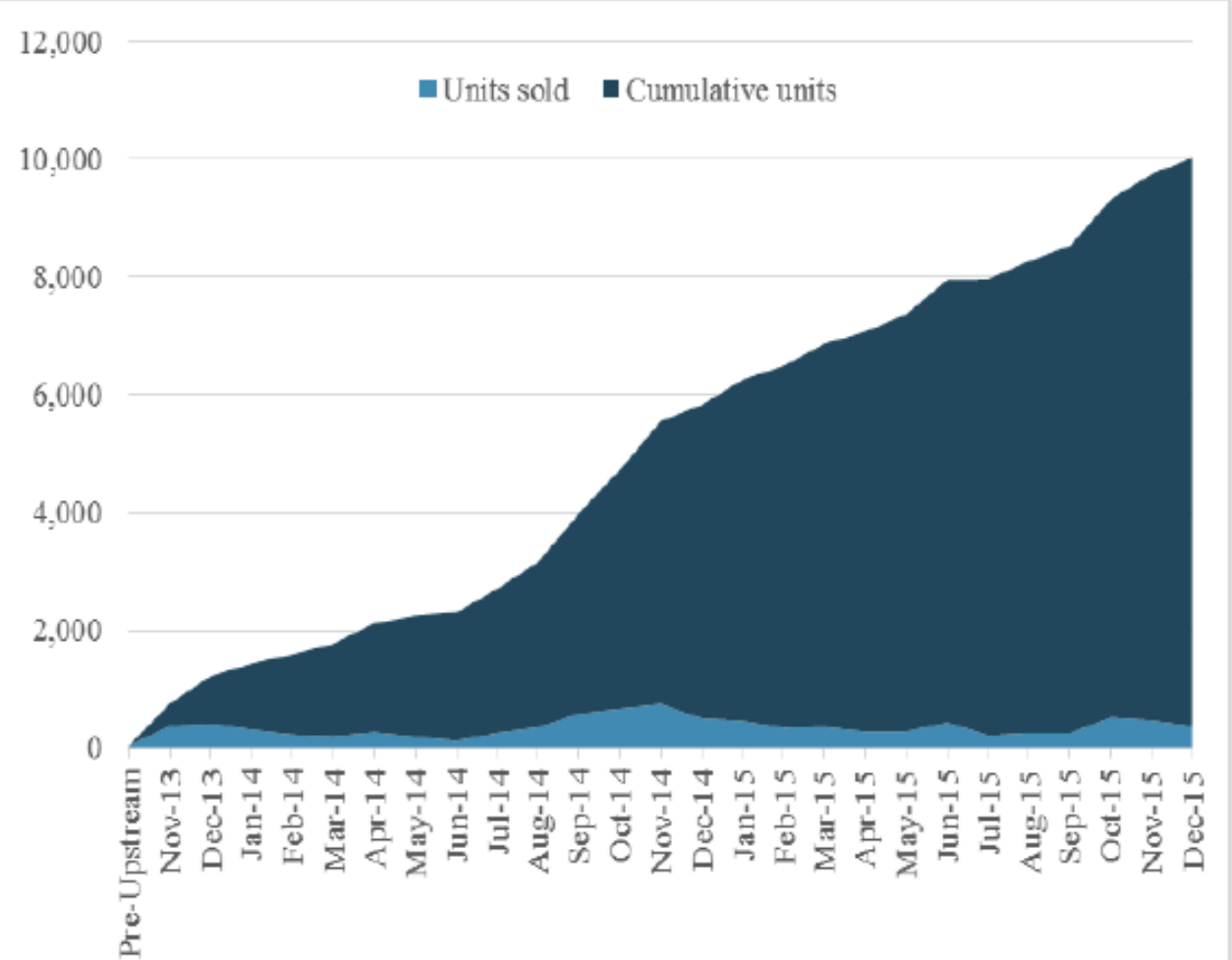
Participation and Savings Change 2017-2018
Downstream shift Upstream



Efficiency Vermont



Sales/Installations - Heat Pump Water Heaters



Sales/Installations - Circulator Pumps

Source: Efficiency Vermont (operated by the Vermont Energy Investment Corporation [VEIC]): *The Supply Chain Was Just Sitting There: How an Energy Efficiency Program Exceeded Its Goals and Transformed the Upstream Marketplace*



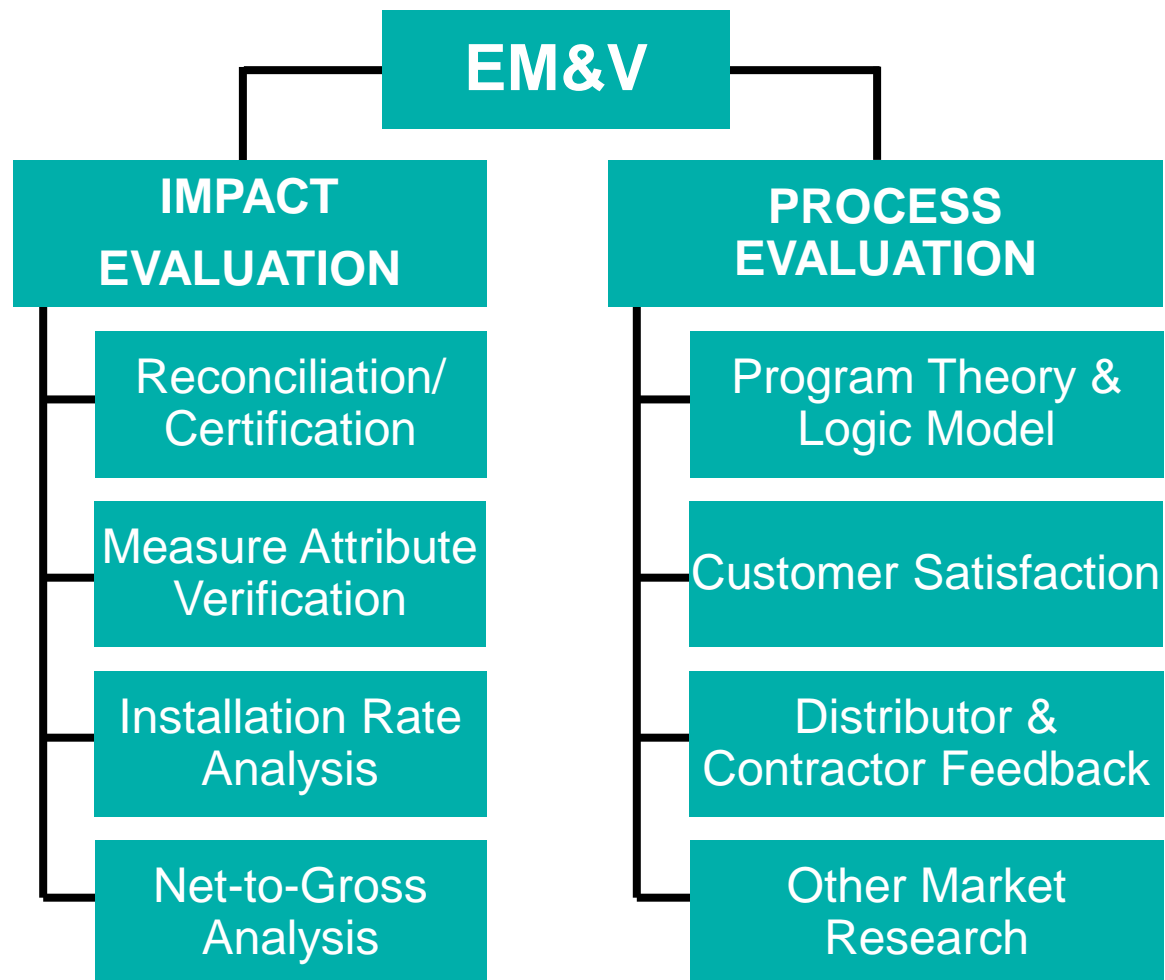
Michigan Market Opportunity

- **3,500 – 4,000 NG-fueled HE Boilers installed in MI annually**
 - 2018 – DTE and CE programs captured 733 units
- **~37,000 NG-fueled Water Heaters shipped to MI annually**
 - 8,000 are ENERGY STAR ® rated
 - 2018 – DTE and CE programs captured 940 installed units

NOTE: Based on data provided in vendor interviews.

Evaluation Approaches

Evaluators have an industry-standard set of best-practice evaluation approaches, which are tailored to residential HVAC midstream programs. Evaluation of midstream programs is common practice and has been done successfully across the country and in Michigan.



Evaluators have been engaged with DTE, Consumers, and implementor contractors throughout the program design phase.

Specific elements of the evaluation will address unique midstream program aspects including:

- Triangulation of net-to-gross considering distributor, contractor, and end-use customer
- Indirect determination of end-use customer contact information
- Verification of customer and market impacts

Evaluation Approaches

Third-Party Evaluators have worked closely with DTE, Consumers, and Implementation Contractors throughout the program design phase, and will continue to work with utilities to provide real-time evaluation feedback and address potential challenges.

Potential Challenges

Evaluation Approaches

Underestimation of Free-Ridership

Assess utility attribution and triangulate net-to-gross by conducting phone surveys or in-depth interviews with distributors, contractors and the end-use customer

Over Counting of Savings

Conduct reconciliation (or certification) and review program tracking database to verify savings, and complete end-use customer phone-surveys or on-site visits to verify measure installation rates

Poor Contractor Installation Quality

Conduct phone or on-line surveys with end-use customers to assess contractor satisfaction, and identify any installation quality concerns

Lack of Contractor Engagement

Conduct contractor in-depth interviews to understand benefits, key challenges of the program and how they may be addressed

Rebate Does Not Reach End-Use Customer

Verify customer and market impacts based on intended outcomes of program design

Where We Are Now



Consumers Energy

- Rapid experimentation/prototyping phase
- Focus on lowest participating measure(s) and greatest untapped potential
- Internal and external opportunity to learn
- Count to Date: 1 for both Consumer Energy and DTE Energy
- Longer-term evaluation potential for other measure growth
- Current measures
 - 92% - 95%+ AFUE boilers
 - ES water heaters (tank and tank-less)

Thank You!

Questions?



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