

MID-STREAM PROGRAMS: OVERVIEW

PRESENTATION TO THE ENERGY WASTE
REDUCTION (EWR) COLLABORATIVE

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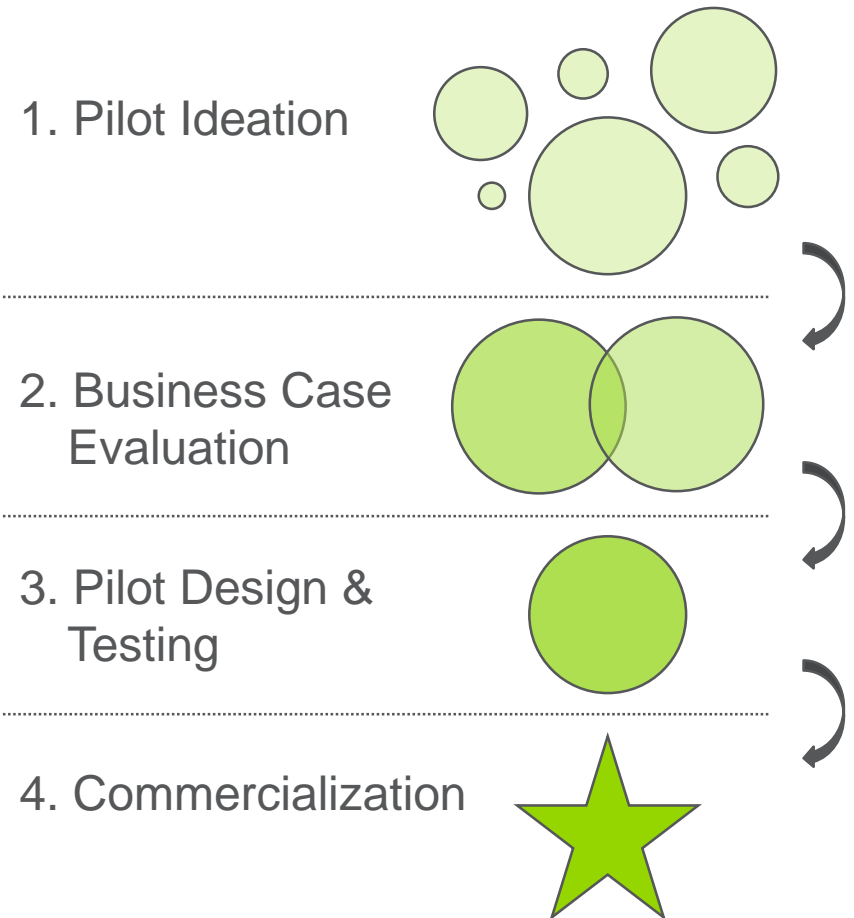
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DTE ACTIVITIES: COMMERCIALIZATION PATHWAY

BACKGROUND:

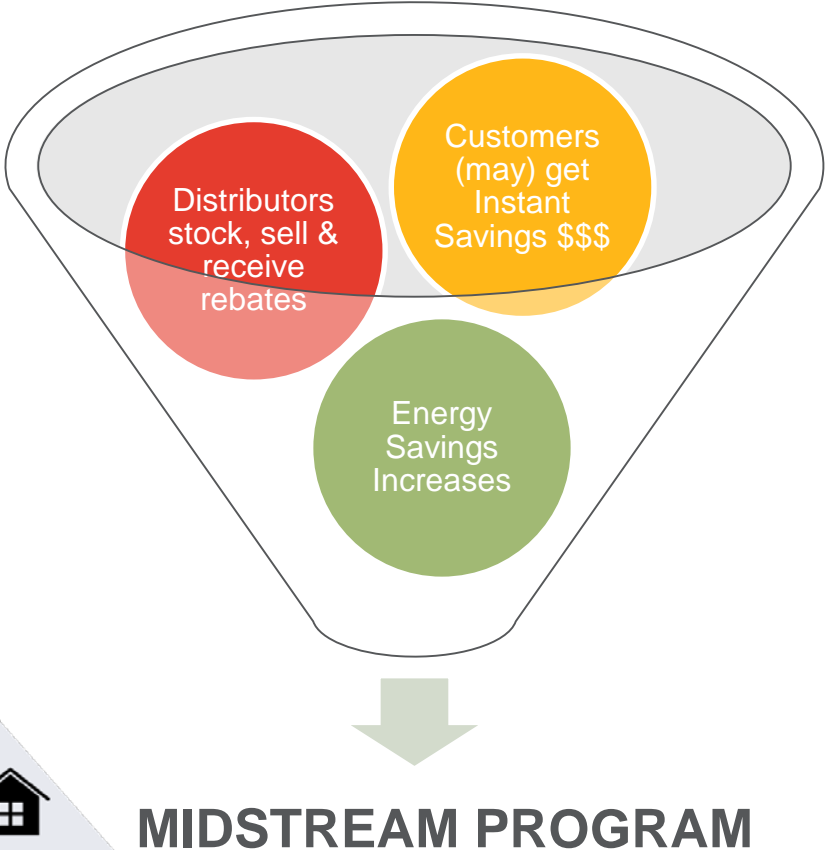
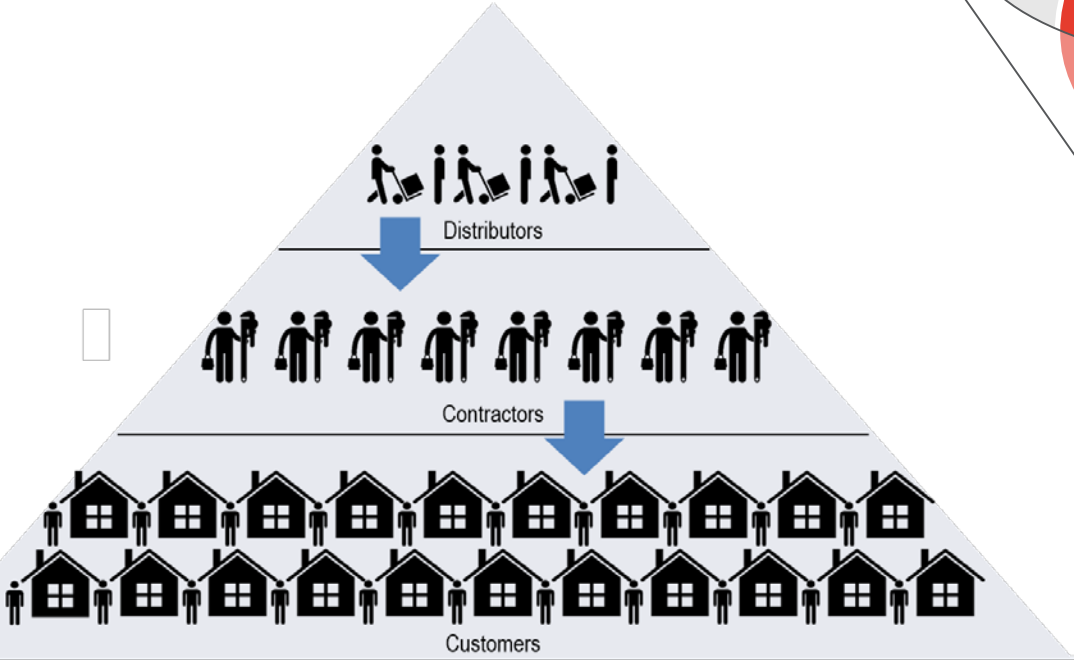
- DTE has a multi-step process designed to take potential pilot projects from idea to commercialized program. Steps include:
 - **Pilot Ideation:** structured process to ensure quality ideas are generated from a variety of sources
 - **Business Case Evaluation:** screening process designed to select the best potential pilot projects
 - **Pilot Design & Testing:** design, implementation, and evaluation of selected pilot projects
 - **Commercialization:** dedication of EO funding to project, and creation of program-specific targets

COMMERCIALIZATION PROCESS



MID-STREAM PROGRAM OVERVIEW

- Midstream programs provide a rebate directly to distributors or retailers to stock and sell efficient equipment.



PROGRAM SPECIFICS

MID-STREAM PROGRAM PRODUCT OFFERINGS ACROSS THE INDUSTRY

- ❑ **Lighting:** LEDs, CFLs, Linear Fluorescent Lamps and Ballasts, Occupancy Sensors, Exit Signs, Display Signs, Street Lights

- ❑ **HVAC & Water Heating:** Air Conditioners (Unitary, Split, Packaged Terminal), Heat Pumps (Air Source, Packaged Terminal), Split Systems, Furnaces, Chillers, Duct Systems, System Controls, Room Air Conditioners, Water Heaters

- ❑ **Food Service Equipment:** Refrigerators, Freezers, Coolers, Ovens, Fryers, Steam Cookers, Griddles, Hot Holding Cabinets, Ice Machines, Pre-Rinse Sprayers, Dishwasher, Ventilation Hood with Demand Control, Strip Curtains

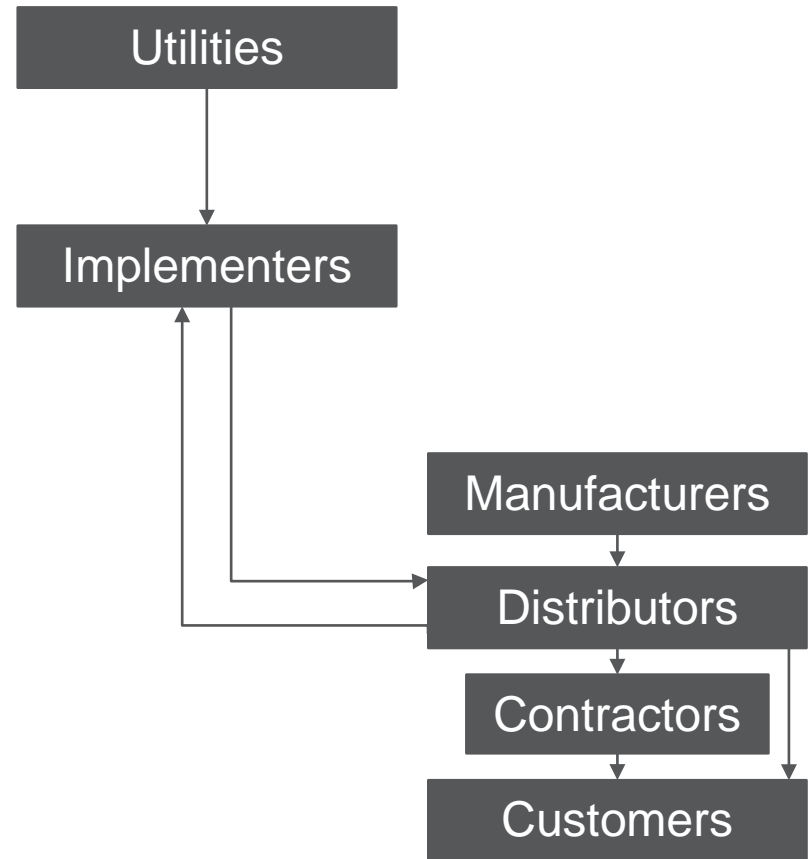
- ❑ **Appliances:** High Efficiency Evaporator Fan Motors (ECM), Variable Speed/Frequency Drives, Automatic Door Closers, Vending Machine Controls, Strip Curtains, Anti-Sweat Heater Controllers, Clothes Washers, Dishwashers

- ❑ **Consumer Electronics:** Plug-load Smart Strips, Shade Screens

MID-STREAM PROGRAM OVERVIEW

MARKET ACTORS

- ❑ **Utility** – or program sponsor, provides program vision and resources.
- ❑ **Implementer** – responsible for program design and execution
- ❑ **Manufacturers** – manufacturer energy efficient equipment
- ❑ **Distributor/Retailer** – or key program driver, responsible for stocking and selling equipment and acts as the reimbursement center for all contractors and customers. Participating distributors will need to sign program agreements to meet outlined program requirements.
- ❑ **Contractor** – may act as the role of a distributor or may install purchased equipment
- ❑ **Customers** – end-users eligible for participation in the utility program



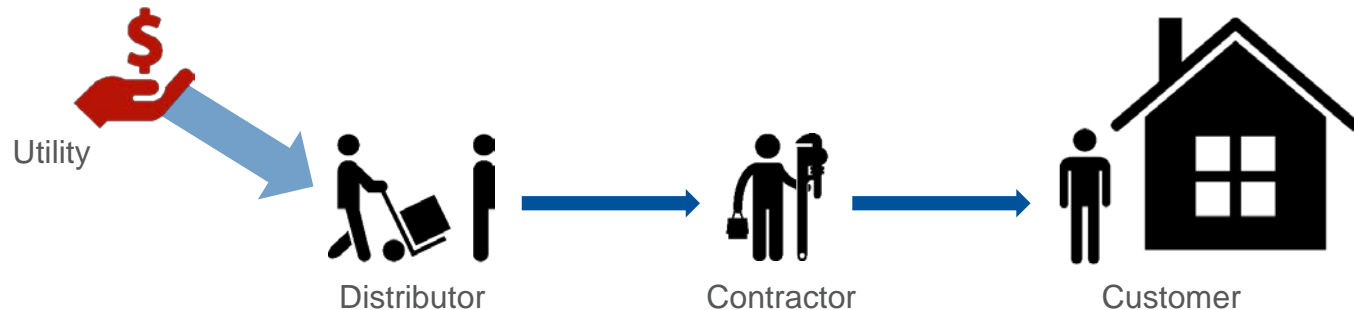
MID-STREAM PROGRAM OVERVIEW

BENEFITS:

- ❑ Transform the market by encouraging distributors and retailers to stock efficient products
- ❑ Reach more customers with fewer points of contact
- ❑ Increased sales and energy savings
- ❑ Fewer rebate application errors

CHALLENGES:

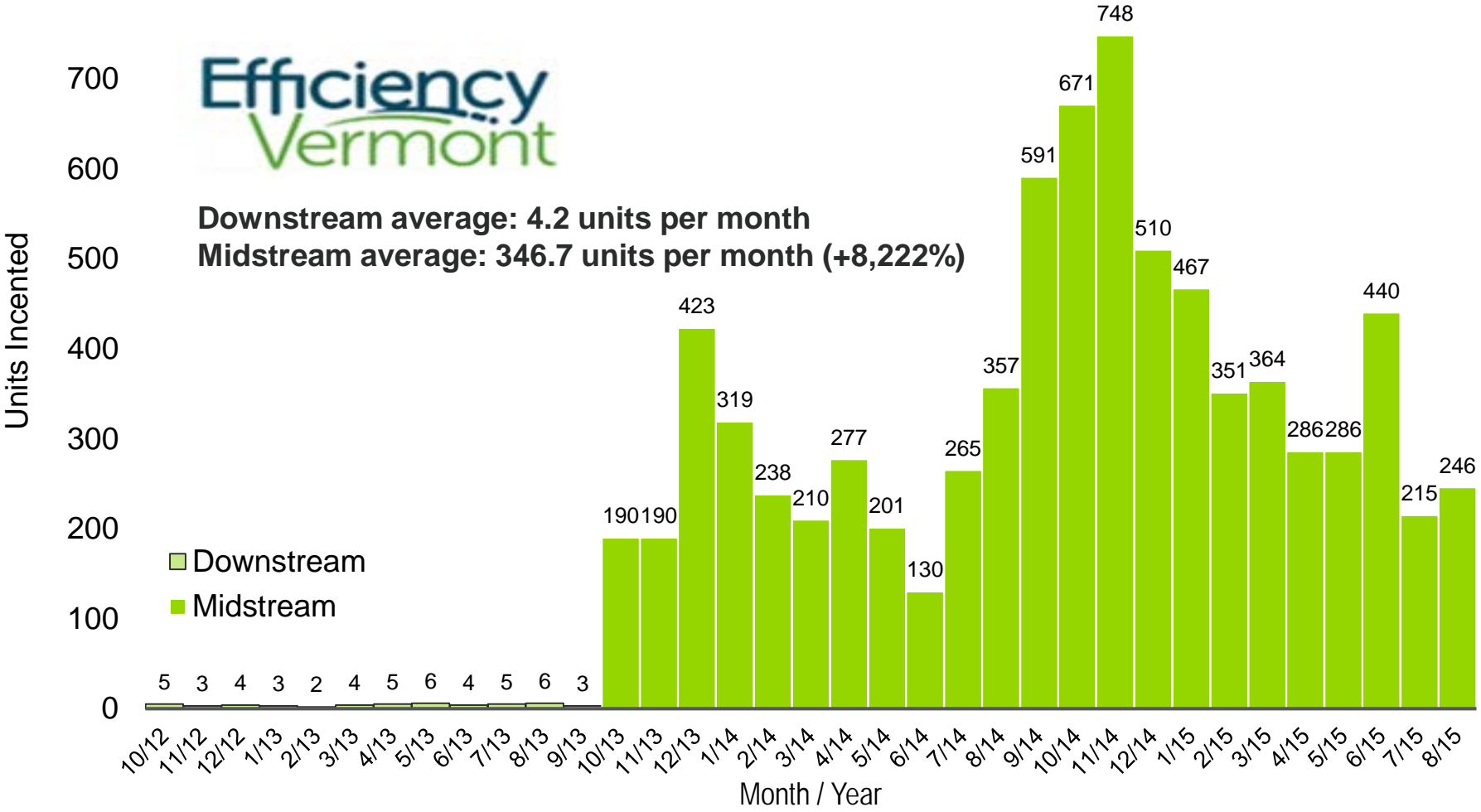
- ❑ Lack of customer contact may create difficulties obtaining project and customer information needed for EM&V
- ❑ Changes in traditional marketing and outreach techniques resulting from a shift to midstream incentives may contribute to reduced customer awareness.
- ❑ Reduced customer awareness may lead to challenges with utility attribution and customer satisfaction



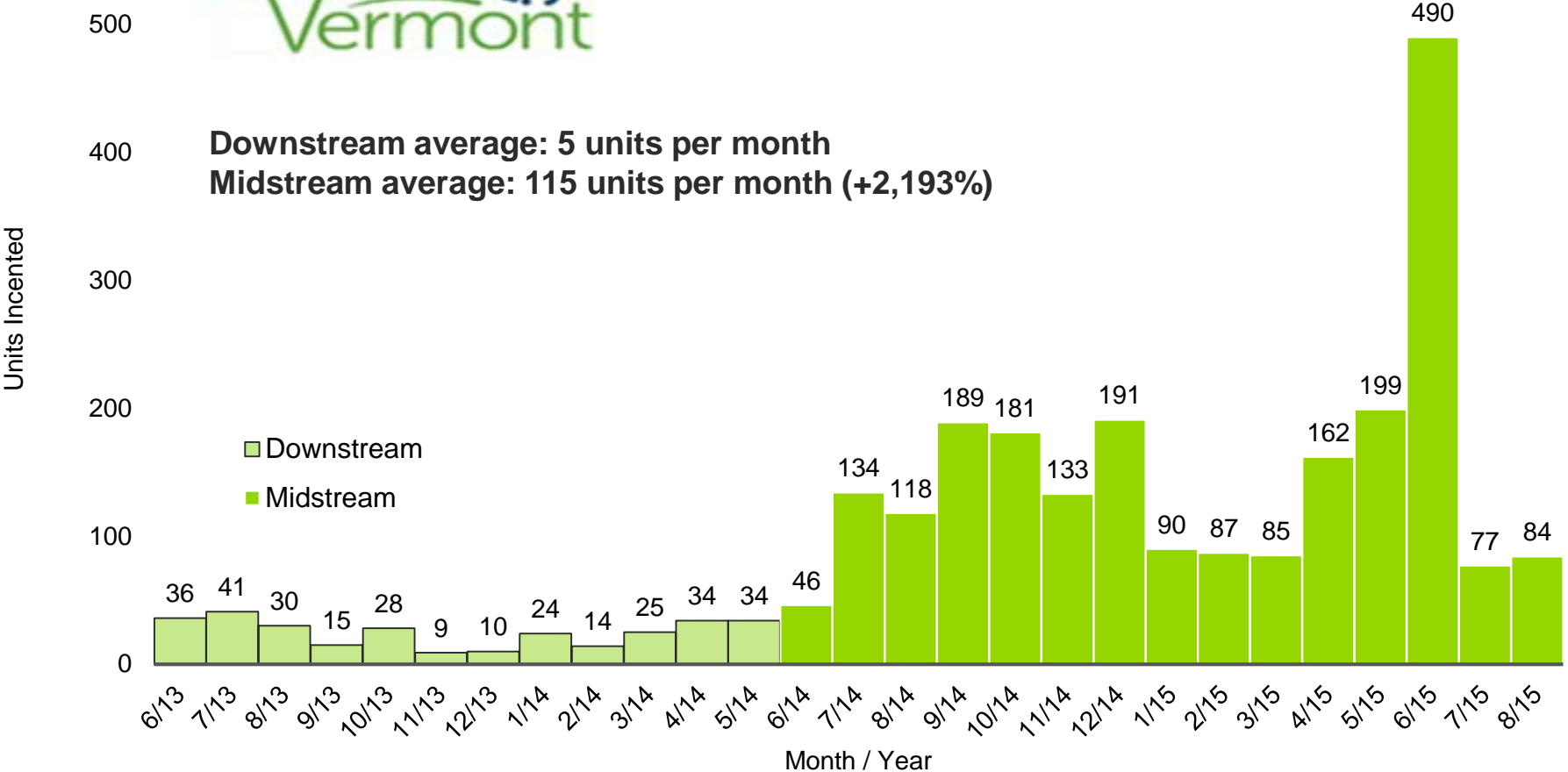
LESSONS LEARNED FROM MIDSTREAM PROGRAMS

- ❑ Successful midstream incentive programs require ongoing relationships with distributors or vendors
- ❑ Midstream incentive programs reliably improve program participation, but claimable savings can be compromised if the utility fails to collect data. Participation agreements should require that distributors provide the minimum:
 1. Make & model of equipment with product description
 2. Dates & install locations
 3. Prices & product incentive amounts
- ❑ Wherever a distributor's customer base spans multiple utility service territories, cost efficacy and participation can be enhanced by utility collaboration. Failure to coordinate midstream incentives between neighboring utilities can result in leakage, double incentives, and loss of participation.
- ❑ Provide trainings and a qualified product list to participating distributors and vendors.

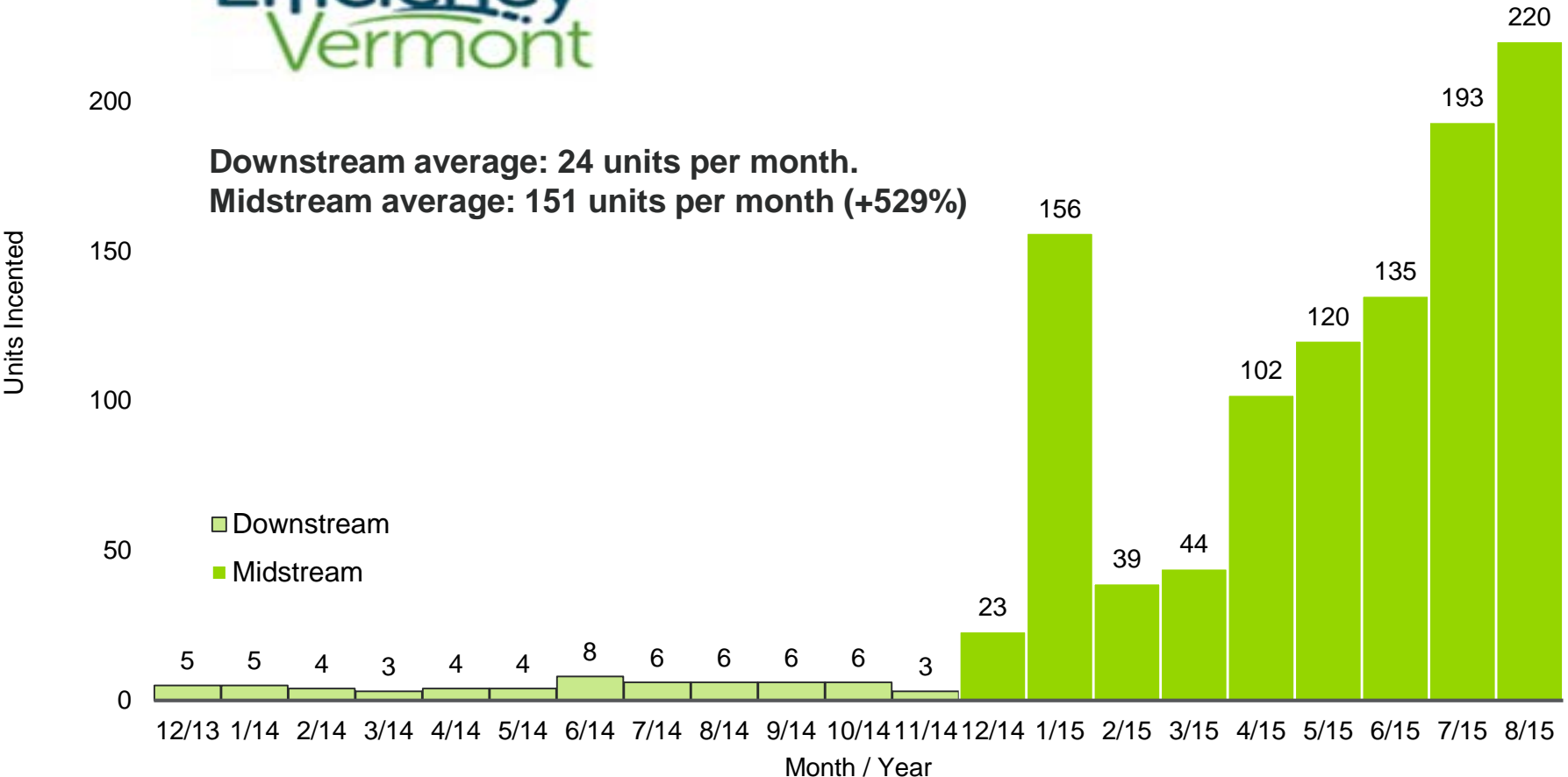
VT HIGH PERFORMANCE CIRCULATOR PUMP (HPCP) PARTICIPATION: DOWNSTREAM VS. MIDSTREAM



VT HEAT PUMP WATER HEATER (HPWH) PARTICIPATION: DOWNSTREAM VS. MIDSTREAM

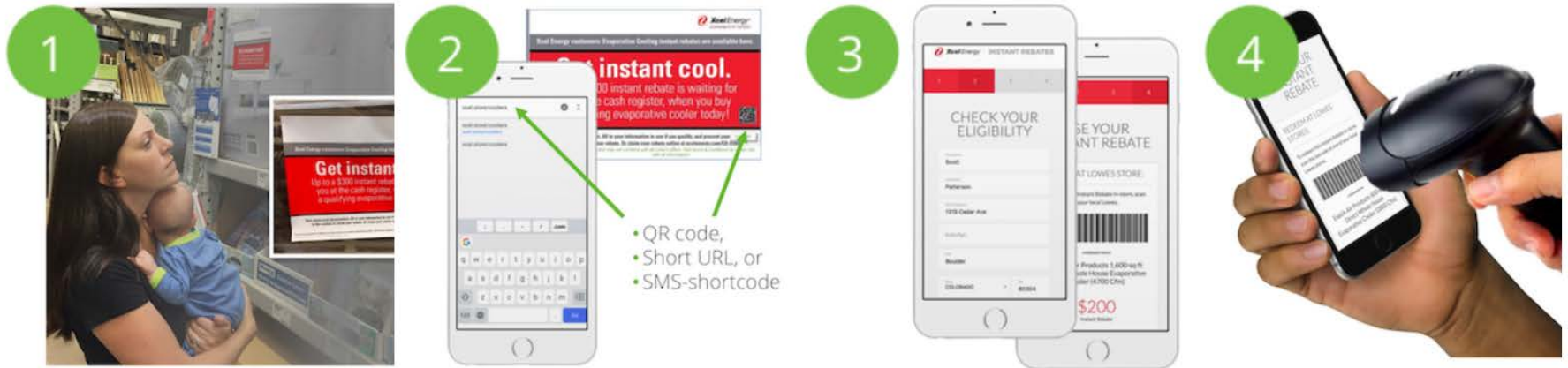


VT COLD CLIMATE HEAT PUMP (CCHP) PARTICIPATION: DOWNSTREAM VS. MIDSTREAM



INNOVATION: REBATES AS A SERVICE:

- Taking the mid-stream model idea....direct to the retail storefront.



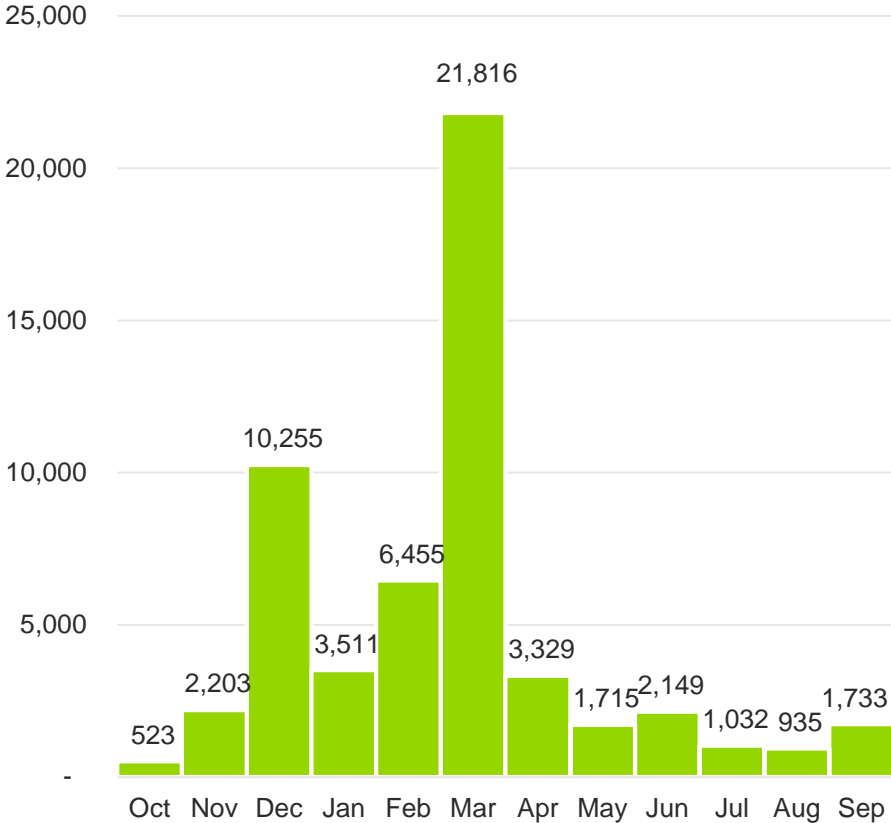
<http://simpleenergy.com/rebates-as-a-service/>

DTE ACTIVITIES: C&I MIDSTREAM LIGHTING PILOT

BACKGROUND:

- DTE tested the Midstream approach as an alternative way to more efficiently promote high efficiency lighting for Commercial and Industrial customers (C&I)
- Began as pilot program in October 2015 with the intent to commercialize if successful. Pilot concluded in Fall 2016

MONTHLY LAMPS SOLD DURING PILOT:

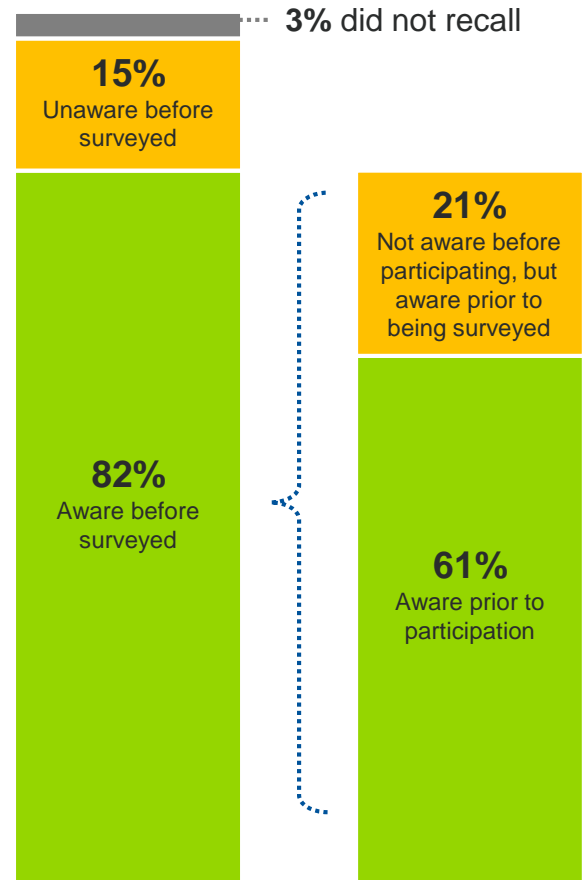


DTE ACTIVITIES: C&I MIDSTREAM LIGHTING PILOT

IMPACT:

- ❑ **Database Review:** A total of 55,656 lamps were sold during DTE's Midstream Lighting Pilot between October 2015 and September 2016
- ❑ **Database Review:** The majority of lamps sold were 2' and 4' Tube LED lamps replacing fluorescent lamps
- ❑ **Phone Surveys:** Approximately 82 percent of participants reported being aware of the incentives offered prior to completing the survey
- ❑ **Onsite Verification:** The majority of lamps were verified installed. Customers with lamps not installed mostly indicated that they were waiting for facility downtime or for existing lamps to burn out before installing

PROGRAM AWARENESS:



DTE ACTIVITIES: CURRENT MIDSTREAM INITIATIVES

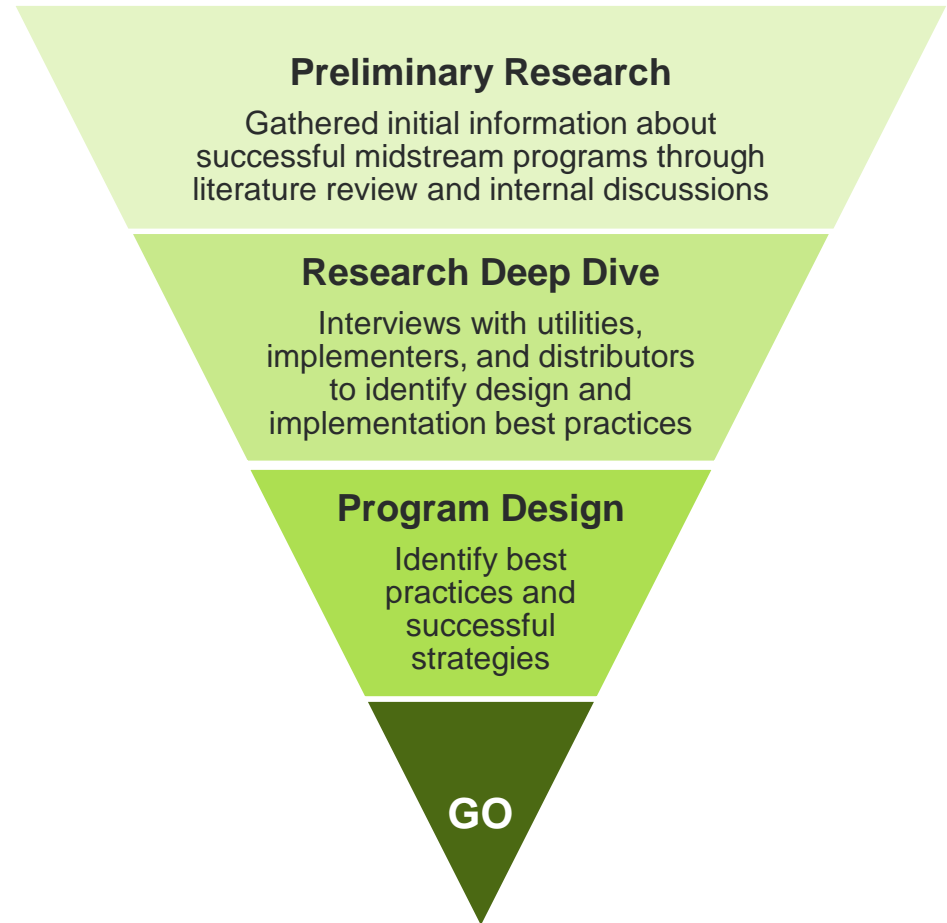
COMMERCIALIZED:

- ❑ **Midstream Lighting:** Following a successful pilot, DTE commercialized the Midstream Lighting program in 2017. The program just concluded a successful first year
- ❑ **Midstream Food Service:** DTE plans to commercialize a separate C&I Midstream Food Service program in early 2018 as part of a growing portfolio of Midstream offerings

PILOTS:

- ❑ **Midstream HVAC:** DTE is currently in the process of evaluating the market potential for a C&I Midstream HVAC program offering within its service territory

MIDSTREAM HVAC PILOT RESEARCH:



EVALUATION TECHNIQUES

Typical Midstream Evaluation Activities include:



* Will be explored further

EVALUATION CHALLENGES

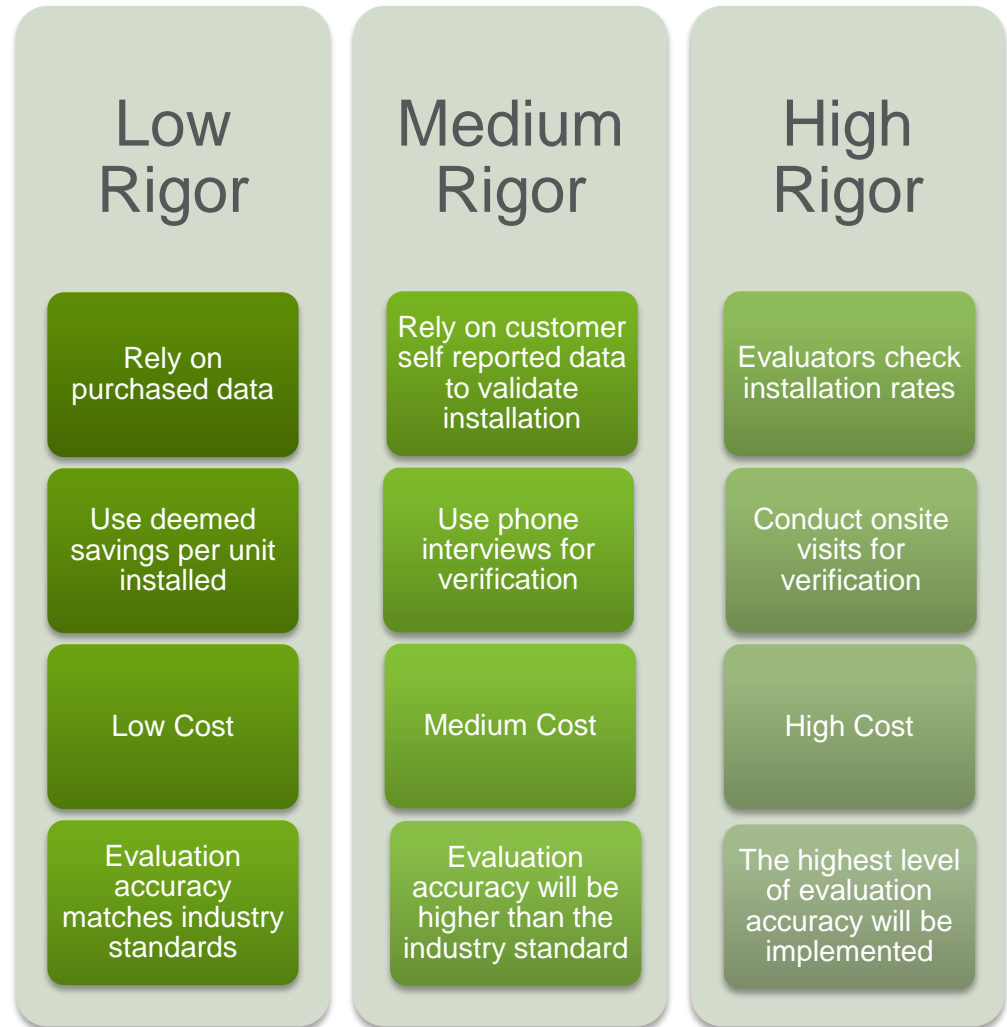
There are challenges to applying traditional EM&V approaches to mid-stream programs. Program evaluation planning must contend with the following issues:

- ❑ Preventing double-counting savings.
- ❑ Accessing customer information
- ❑ Collecting current contact information
- ❑ Determining baseline assumptions
- ❑ Ensuring protocols exist to prevent leakage

EVALUATION TECHNIQUES

VERIFICATION ACTIVITIES

- ❑ Mid-stream data is based on purchased products rather than installed products. Typical verification activities range from:
 - ❑ Applying Deemed Installation Rates
 - ❑ Conducting Phone Interviews
 - ❑ Performing Onsite Verification Visits
- ❑ Level of rigor chosen will affect evaluation costs, accuracy, and depth of program recommendations
- ❑ Level of rigor appropriate for each jurisdiction balances evaluation goals with available resources



CONCLUSION

- ❑ Midstream programs will be an increasingly larger component of efficiency programs across the country
- ❑ Technology and systems are improving to address program delivery and EM&V challenges
- ❑ Sharing of lessons learned and utility coordination and information sharing is important

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