The Midstream Gas Sasquatch – Elusive or Illusive?

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ABSTRACT

Despite widespread success moving electric energy efficiency measures to a midstream program model, the movement of gas measures to midstream has proven challenging for many utilities. It is important to uncover strategies for continued success with gas programs, as not all commercial equipment types and end uses are good candidates for electrification. Are such midstream opportunities merely difficult to capture (elusive) or are they in fact unattainable (illusive)? TRC, in partnership with Phil Willems and Consumers Energy, conducted a study from September 2020 through February 2021 focused on challenges experienced by the Consumers Energy Business Instant Discount Program (BIDP), specifically as they pertain to distributor participation with gas equipment. Our research included interviews with program administrators as well as interviews with distributors that sell gas equipment. This paper outlines the key findings from our research as they pertain to engaging distributors and influencing them to actively stock and sell high-efficiency gas equipment. Our research discovered that program administrators are treating gas midstream quite differently from electric midstream – "they are two different animals." While midstream is typically a less expensive and more cost-effective alternative to a downstream program, this is not always the case for gas measures. Successful peer programs often focused on engaging select markets with specific strategies for targeting the distributors with the most market share. Rather than focus on our specific recommendations for improving the Consumers Energy BIDP, this paper presents our findings interpreted as more general program best practices.

Introduction

A recent trend in the energy efficiency industry is to shift the delivery of incentives for energy efficient equipment from downstream to midstream program delivery models for applicable equipment. Rather than provide rebates to end use customers, midstream programs offer incentives to distributors and retailers for each unit of high-efficiency equipment they sell, thus enhancing the uptake and promotion of more efficient equipment by contractors and customers. In some cases, the entire incentive goes to the distributor and/or retailer, in others, the incentive is split between the distributor/retailer and equipment buyer, or the entire incentive is passed along to the end use customer.

Midstream programs were first introduced in the early 2000s, and utilities have found success promoting electric measures through a midstream channel, particularly for lighting. Our review of **the Consumers Energy BIDP and its** peer utilities shows that some midstream programs for commercial and industrial (C&I) customers account for as much as 14% of C&I program savings. Moreover, midstream programs for lighting have proven very cost-effective and have contributed to the transformation of the commercial lighting market, first from T12s and incandescent bulbs to T8s and **light-emitting diodes (**LEDs**)** and more recently to **tubular light-emitting diodes (**TLEDs**)** and screw-in LED lamps. Success with lighting has prompted many utilities to expand the midstream delivery channel to other measures, including hot water heaters and boilers, Heating, Ventilation, and Air Conditioning (HVAC), and food service equipment.

Increasing efficiency standards for HVAC and water heating equipment have eroded the per-unit savings achieved by installing the higher-efficiency option, thus making it challenging for more costly

downstream programs to remain cost effective. In light of accelerated federal appliance standards, midstream offerings may be an effective channel to incentivize contractors or building owners to purchase high-efficiency HVAC products (Bickel 2016). By incentivizing distributors to both stock and promote high efficiency, utilities can reach more customers and achieve higher volume at a cheaper or similar cost compared to the downstream model. The midstream model has been adopted by utilities across the country to drive savings: A 2019 National Grid and Commonwealth Edison joint study found that moving HVAC equipment from downstream to midstream increases savings and drives market transformation within the HVAC market (Vaidya 2020).

While some midstream programs have found success achieving gas savings, there are challenges to the uptake of HVAC, food service equipment, and hot water heaters within the midstream model**.** These C&I equipment markets have not proven as readily adaptable to the midstream model, for three key reasons:

- **Diverse players:** Manufacturers, manufacturer representatives, and distributors are part of this market — and each stakeholder has unique priorities and communication needs. Similarly, a single type of equipment (e.g., packaged HVAC) is typically offered not only in different sizes/capacities, but also in different efficiency levels.

- **Cost:** Compared to lighting, other measure categories typically comprise higher cost items than lighting fixtures and lamps, and the higher efficiency models targeted by midstream programs may be significantly more expensive than the standard efficiency equipment that accounts for most sales. As a result, stocking high efficiency HVAC and food service equipment imposes greater risk and higher carrying costs on distributors. It also puts pressure on distributors and contractors to message the value of selecting the high efficiency option to their customers.

- **Verification complications:** Many distributors sell similar — or even identical — HVAC and water heating equipment to residential and small commercial customers. Moreover, many carry both gas and electric equipment, which complicates the process of confirming that qualifying equipment will be installed in a business facility in the utility's gas or electric territory and underscores the importance of coordination across utilities and between residential and commercial midstream programs.

Despite these challenges, Consumers Energy wanted to determine what opportunities existed for incentivizing non-lighting equipment, specifically gas equipment, through a midstream program. Are such midstream opportunities merely difficult to capture (elusive) or are they in fact unattainable (illusive)? To find out, TRC, in partnership with Phil Willems and Consumers Energy, conducted a study from September through November 2020 focused on understanding the challenges experienced by the Consumers Energy Business Instant Discount Program (BIDP), specifically as they pertain to incentivizing distributors for the sale of gas equipment. An overview of the Consumers Energy BIDP as well as the specific research objectives and methodology for the study are outlined in the following sections.

Program Overview

Consumers Energy launched its business midstream program, the Business Instant Discount Program (BIDP), in 2017. Through the BIDP, Consumers Energy provides rebates to commercial equipment distributors for the sale of qualifying energy efficient equipment to business customers located in the Consumers Energy service territory. This program complements the portfolio of commercial and industrial (C&I) offerings provided by Consumers Energy. BIDP rebates are largely passed through the distributor to the end-use customer; however, distributors receive a bonus incentive based on the quantity of units sold

through the program. When the program launched in 2017, it initially focused on screw-in LEDs and efficient linear fluorescent lamps. Today, the BIDP has grown to include a variety of appliances, furnaces, and water heating measures. As savings targets continue to increase, program staff are interested in how they can leverage the BIDP to bring in savings through gas measures and HVAC equipment.

Research Objectives

The overall objective of the research effort was to investigate challenges to increasing BIDP participation among distributors selling gas equipment to businesses in the Consumers Energy gas and combination service areas. The research was driven by the following research objectives:

1. Understand barriers to and drivers of distributor engagement in the BIDP for gas equipment.
2. Identify opportunities to improve and if possible, expand, the BIDP through increased distributor participation.
3. Identify opportunities to improve distributor engagement in the BIDP.
4. Develop recommendations for program design improvements that would increase distributor sales of gas equipment through the BIDP.

To meet these objectives, we paired the peer utility perspective with the nonparticipant distributor research to identify deep insights and unmet needs that could help Consumers Energy increase distributor sales of gas equipment through the program.

Methodology

The study included two tasks: (1) a literature review of peer organization midstream programs and evaluation research, as well as targeted in-depth interviews with peer organization midstream program managers, and (2) interviews with nonparticipating distributors. The following sections outline the methods used to complete each task.

Task 1: Peer Utility Research

First, the evaluation team conducted a targeted literature review of peer organization midstream programs to help Consumers Energy understand elements that have made these programs successful in achieving gas savings and the types of gas measures included in peer organization programs. To conduct this effort, the evaluation team first reviewed the following sources:

- Publicly available descriptions of midstream programs specifically related to gas measures (e.g., program websites, industry databases, evaluation reports)
- Industry conference proceedings (e.g., IEPEC, AESP)
- Industry group publications and other resources (e.g., ACEEE studies, E Source)

Next, TRC conducted six phone interviews with peer organizations: two interviews with industry experts in midstream program development and implementation and four with peer utility contacts who manage commercial midstream programs offering incentives for gas equipment. Figure 1 outlines the age of the midstream programs of the four peer utilities the research team interviewed. Program 1 was the longest running program, targeting both the HVAC / Hot Water and Food Service sectors. While a few of the more recent programs, Program 2 and 4, initially launched Food Service midstream offerings while later incorporating HVAC / Hot Water measures into their midstream offering.

Figure 1: Age of Peer Utility Midstream Programs by End Use

Our peer organization interview guide included questions and prompts to guide telephone conversations with staff from peer organizations. The evaluation team developed these questions to understand how other utilities have grown their midstream programs and to gain insight into their barriers to and strategies for success. The evaluation team developed a slightly different set of questions for industry experts targeted at understanding their research on successful midstream programs. Interviews lasted about 60 minutes; as a thank-you for respondents' time, we provided an anonymized summary sheet of high-level findings from the research effort.

Task 2: Distributor Nonparticipant Research

The evaluation team conducted nine in-depth interviews with two target groups of distributors who commonly sold equipment to businesses within the Consumers Energy service territory: nonparticipants and near-participants (defined as distributors that were signed up with BIDP but had not participated in the past two years). Table 1 summarizes respondent participation in other midstream programs offered by the Michigan utilities, DTE and Consumers Energy, at the time of the interview. It is interesting to note that two of the respondents were in fact participating in Consumers Energy's residential midstream program; however, they had not participated in the Consumers Energy commercial midstream program, the BIDP. Both food service distributors were not participating in any midstream program at the time of the interview. To be eligible for our research, distributors had to not be actively participating in the Consumers Energy commercial midstream program.

Table 1: Distributor Interview Respondents - Participation in Other Midstream Programs*

Distributor Type	Consumers Energy Commercial (Near-participants)	Consumers Energy Residential	DTE Commercial	DTE Residential	None**	Total
HVAC	2	4	3	4	0	**7**
Food service	0	0	0	0	2	**2**

* Distributor participation was self-reported, TRC did not confirm distributor level of activity through the different midstream programs.
** Food Service distributor respondents were not participating in any midstream programs.

The primary purpose of these interviews was to ascertain what participation barriers exist and what would motivate distributors to promote gas technologies through the BIDP. Additionally, these interviews were used to understand what outreach and communication methods would work best for engaging with distributors.

The recruiting process included screening to ensure that only near- or nonparticipating distributors who offer gas equipment to business customers within Consumers Energy gas territory were selected for the interview. The evaluation team designed the interviews to be fielded over the phone and take approximately 45 to 60 minutes. Respondents received a $75 incentive for their time.

Key Findings

Key findings are summarized below. Peer midstream programs included in this research and how their experiences provide us with insight to the opportunities for growing midstream gas offerings are discussed first. This is followed by a review of the best practices we uncovered related to program development including strategies for driving distributor participation.

Overarching Themes

Several key themes emerged from our research related to the overall performance of midstream programs and considerations for growth in the future. These themes were used to support the development of actionable recommendations for the enhancement of the Consumers Energy BIDP; however, they are applicable to other utilities who are considering developing a gas midstream program.

Midstream programs do not currently account for a large share of utilities' total C&I gas savings. Midstream gas programs did not account for a large share of the C&I gas portfolios for the peer programs we reviewed for this study. The inclusion of gas measures (e.g., HVAC and food service) in the midstream model is still relatively new when compared to lighting. This was evident in our interviews with peer utilities' and was discussed in the context that opportunities could still exist for midstream gas programs to grow.

Table 2 shows midstream programs contribution (percent) of overall C&I gas savings reported by peer organization respondents. Overall, the expected contribution to C&I gas savings from peer organizations' midstream programs ranged from 2 to 15% with more seasoned programs typically bringing between 10 to 15% of total C&I savings. Consumers Energy's BIDP was heavily impacted by COVID-19 due to business closures in the region, and therefore reducing the overall midstream target for 2021 to 3% of the portfolio. Many of the peer program administrators also noted that the COVID-19 pandemic impacted the success of food service measures as the restaurant and hospitality industries were hit especially hard. It is unclear when, and how much, these industries will bounce back. While midstream programs have opportunities to grow in the HVAC and food service markets, the rate of growth and ability of industries to bounce back is uncertain and could impact midstream gas program success into the future.

Table 2. Peer Organizations' Midstream Programs Contributions to Total Gas Savings

Utility	Age of Midstream Program	Expected Contribution to Overall Gas Savings	COVID-19 Pandemic Impact on Goals
Program 1	Food service: 10 years Heating/Hot Water: 10 years	13% – 14% (HVAC only, no food service estimate)	No change reported
Program 2	Food service: 3 years Heating/Hot Water: 1 year	10% (7.5% HVAC / HW, 2.5% food service)	No change reported
Program 3	Food service: 10 months Heating/Hot Water: 10 months	N/A*	Does not expect to meet goals due to the COVID-19 pandemic

Utility	Age of Midstream Program	Expected Contribution to Overall Gas Savings	COVID-19 Pandemic Impact on Goals
Program 4	Food service: 10 months Heating/Hot Water: 7 months	1% (total, expected to be 5% in 2021)	Reduced goals by 50% due to the COVID-19 pandemic
Consumers Energy	Food service: 2 years Heating/Hot Water: 3 years	3%	Reduced goals by 80% midway through 2020

*This peer organization respondent did not give a value. Rather it was reported that "[the contribution] is about half, but half of a relatively small number."

Another consideration for understanding the opportunity to develop a midstream strategy is that **midstream gas programs can sometimes be less cost-effective** than the downstream alternative depending upon the equipment type(s) targeted through the program. The program managers we interviewed acknowledged that the midstream model is not always as cost-effective as downstream for HVAC and food service measures as sometimes the cost to influence the stocking and sale of specific equipment can be higher (Backen 2016). However, it still provided an opportunity to influence the uptake of measures that were currently underperforming in the downstream program. One program manager stated "[We have] accepted that it is going to cost more to hit that market. For HVAC, we are trying to go after measures with little to no activity in the downstream program." This program administrator had based their midstream gas strategy on the assumption of lower cost-effectiveness, and therefore developed offerings that targeted specific measures where they were not seeing participation when offered through a downstream program.

Additionally, midstream gas can perform lower on cost-effectiveness when *compared to electric* midstream programs. Program administrators need to understand the potential impact that incorporating a midstream gas strategy may have on overall portfolio cost-effectiveness, including the underlying challenge of low natural gas prices dampening the value of avoided energy use. For peer program administrators, this was an important consideration when determining the objectives of their gas midstream offering and which markets to target.

Lastly, it is also important to **consider the regional equipment stocking practices for HVAC, hot water and food service distributors** when constructing a midstream strategy. Our interviews with nonparticipating distributors indicated that equipment stocking is a barrier for some equipment types. Consistent with findings from the peer organization interviews and past research conducted with participating distributors, the stocking of high-efficiency equipment varied by equipment type. For instance, high-efficiency boilers were generally stocked, while commercial HVAC was not often kept on hand. This is an indication that there could be an opportunity to influence stocking practices of commercial HVAC equipment. Some distributors were also concerned that rebates would not be high enough to encourage customers to purchase high-efficiency equipment. Therefore, some distributors were concerned that their stock of high-efficiency products would not sell quickly enough. Midstream program offerings will need to consider the equipment stocking practices for specific markets when developing an incentive strategy.

Program Best Practices

Evidence thus far points towards midstream gas savings as an elusive beast, that could be captured with careful planning. The next section provides a summary of program administrator strategies that have proven successful when developing a midstream program and what best practices have helped to drive distributor participation in their programs. It is important to note, that as midstream gas savings can be elusive – it is crucial to tailor midstream offerings for specific markets. Throughout the discussion of best practices, we have called out instances where our research highlights key differences in HVAC, hot water, and food service markets.

Distributor Targeting and Program Development

Through our research with peer utilities, we were able to talk with program administrators who were either in the process of implementing a newly developed midstream program or who had held that responsibility when the program was first developed. All peer program administrators discussed the importance of having a thorough understanding of your target market(s) as a basis for designing a successful midstream gas program. This included building connections with not only distributors but engaging the whole supply chain from manufacturers to installation contractors. Peer organizations specifically mentioned the importance of building a network of manufacturer representatives and contractors who install high-efficiency equipment. One peer program administrator noted, "That is how we found the distributors, we talked with manufacturer reps and direct sales employees." This underscores the importance of not only understanding the market and supply chain from a data perspective (production and sales) but of really engaging with different actors within the supply chain to understand their perspective and build trust in a relationship with the utility programs.

In addition, all peer administrators specifically mentioned leveraging relationships with manufacturer representatives to gain introductions to new distributors and, in some cases, a chance to sell the program and "sign them up" and gain credibility. Relationships could be built through regular meetings, attending industry events, or other outreach activities to communicate with manufacturer representatives and contractors the value in leveraging midstream program offerings.

Successful midstream programs not only focused on researching and engaging carefully targeted markets they also targeted the distributors with the most market share, including large multi-site regional operations, national manufacturers, and online vendors. Here again, the specific supply chain factors (such as contractor involvement, manufacturer rebates, etc.) for individual markets as well as the characteristics of individual distributors should be considered when developing a strategy for engaging the largest distributors. Peer programs often highlighted ways in which they customized their outreach, finding unique ways in which the program could expand participation. A few examples include:

- Three of the four peer program administrators mentioned using a customized approach based on the specific needs of the distributor. The customized approach often included daily or weekly calls, in-person meetings (when possible), and active solicitation of feedback on program processes and eligible equipment. One program administrator noted, "We had to do a lot of hand-holding to address [their individual] pain-points."
- Program administrators also cited leveraging outreach activities that spelled out the math to distributors on how much customers could save due to the incentives. Literature review sources emphasized the benefit to the distributors' bottom line from increased sales of higher margin for certain efficient equipment. Our previous research with participating distributors also supports the importance of messaging around energy and cost savings (Perry 2020).
- Some program administrators offered distributors support in developing marketing materials for specific equipment. One program worked with a food service distributor to design a special marketing piece to fit into the flue of a fryer. Others offered co-branding opportunities to participating distributors.

As mentioned, program administrators stressed the importance of actively soliciting feedback from distributors on the design of the program, including processes and eligible equipment. This interaction with distributors should go beyond the program design phase. Some of the more effective programs reviewed treat distributors as partners, meaning that they ask for frequent feedback on program design and actively seek input on measures to include in the program in the coming year. Two peer organizations indicated that they frequently talk with both active and inactive distributors, while others mentioned speaking with distributors to see what they sell and to solicit feedback on market

conditions. As one program manager stated, "I don't think there is any substitute to talking with these folks on a regular basis, face to face is best. No substitute to that."

Driving Distributor Participation

As the previous discussions suggest, successful midstream programs engage the distributors that account for the greatest market share, while at the same time providing a customized approach to their outreach efforts. The question, then, is how to engage those distributors to drive their participation in the program in a way that does not require extensive resources, thereby further challenging program cost-effectiveness. The following section outlines what we heard when talking with distributors about what would motivate them to participate.

One key barrier for distributors is the administrative burden associated with midstream program participation. An administrative burden was mentioned by eight of the nine distributors interviewed as part of the 2021 study. The type of administrative burden ranged from ensuring that stocked equipment complies with program requirements, to verifying installation in a qualifying business facility, to documenting sales and submitting paperwork to the program for reimbursement. The following examples outline the key pain points related to verifying equipment.

- A basic area of concern is the program's equipment coverage and Qualifying Products List, or QPL. Obviously, the greater the range of qualifying equipment, the more attractive the program will be to the distributor and the ultimate customers. However, it should also be relatively easy to identify equipment that is eligible for midstream rebates. Whether the program specifies efficiency criteria (e.g., Energy Efficiency Ratio [EER], watts per lumen, Heating Seasonal Performance Factor [HSPF]) or provides a list of qualifying model numbers, it is far simpler for the distributor if program criteria align with well-established definitions such as those provided by ENERGY STAR® for food service equipment and hot water heaters or the Air Conditioning, Heating, and Refrigeration Institute (AHRI) for HVAC.

- A related challenge is keeping up with rapid changes in the market, where new technologies and models are being continuously introduced. It can be extremely frustrating to a distributor when they offer the latest, most efficient model for a certain type of equipment, only to find that it is not yet included in the QPL. For that reason, it is essential for a midstream program to maintain an accurate and up to date QPL. In addition, the program should encourage distributors to track their sales of high efficiency equipment, since this may help nonparticipating distributors see greater value in participating.

Even when qualifying equipment is clearly defined, the participation process itself can be challenging for distributors to incorporate into their business practices, and all the nonparticipating distributors we spoke with acknowledged this as a barrier. Of course, there are basic controls that must be maintained to ensure that the equipment being sold does qualify, that it is being sold to a commercial rather than residential customer, and that it will be installed in the utility's service territory. But the more successful programs have found ways to streamline that process and make it more compatible with the way distributors do business. This is particularly relevant because many distributors operate in multiple utility territories and in both the residential and commercial sector, making it important to coordinate across sectors and utilities whenever possible.

With the structure of the BIDP, the distributor does not receive any compensation for their time filling out the program application or informing customers and contractors about the program. The entirety of the discount and savings goes to the customer. While the program may result in increased sales for some distributors, those with a lower number of sales face the administrative cost of the lost

time filling out paperwork which may not be made up by the increase in sales, particularly as most distributors reported a low profit margin on high-efficiency equipment. Utilities could consider addressing the administrative burden associated with program participation through fixed per-unit admin fees for each sale, spiffs, or flexible incentives – subject to maintaining program cost effectiveness.[1]

Among peer utility programs, respondents mentioned three strategies that they use to engage and incentivize distributors and overcome the administrative burden of participation: "spiff" bonuses, flexible incentives, and sales competitions. When interviewing distributors, we asked them specifically about their level of interest in these strategies. Generally, nonparticipating distributors respondent favorably when asked about the effectiveness of various approaches. Of the engagement strategies discussed with distributors, the most popular was an administrative bonus to compensate for the additional administrative burden of participating. A majority of distributors were also interested in spiff bonuses, sales competitions, and flexible incentives to increase engagement with the program. To ensure that midstream programs address these barriers to distributor participation, it is important that programs be designed in close collaboration with potential participants. Several literature sources noted midstream programs work well when they treat distributors as a partner in the program. This is done through understanding how their businesses operate, including the entire supply chain related to the equipment they sell, existing stocking practices, and upcoming product releases and providing some type of incentive that compensates participating distributors for the time and effort required to participate.

Conclusion

Our research with distributors and peer program administrators indicates that it takes careful planning to implement an effective non-lighting midstream program. Midstream programs are working towards transforming a market; therefore, having an impact upon HVAC, hot water heating, and food service markets will take some time. Utilities can benefit from regional coordination of their midstream program efforts. For example, almost all distributor respondents in the nonparticipant interview research noted that coordinating midstream program efforts with other Michigan utilities, such as DTE Energy (DTE), would help to streamline the administrative process and increase their participation. This type of coordination and planning will help to streamline program processes and support participation by regional and national distributors.

Lastly, due to the elusive nature of midstream gas savings – it is crucial to tailor midstream offerings for specific markets. Conducting research to increase understanding, and developing relationships, with actors across the supply chain, are critical for penetrating the HVAC, hot water, and food service markets. Program administrators also need to acknowledge that distributors are concerned with the administrative burden that comes with participating in a midstream program. It takes staff time to process rebates and the cost to carry high-efficiency equipment is higher than standard models, especially when stock is not purchased by customers as readily as standard equipment. Program administrators must ensure they have a strategy in place to compensate distributors for their time.

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