

Developing Upstream HVAC Programming in the Northeast

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Abstract

This paper explores the first of its kind process of regionally coordinated engagement of upstream actors (manufacturers and distributors) in the residential and commercial HVAC marketplaces undertaken in the Northeast in 2007. The presentation will enable attendees to understand the process undertaken to move upstream via pursuit of joint, cooperative activities between efficiency programs and upstream market actors rather than continue to exclusively pursue end-use customers.

The author¹ shares the experience of Northeast Energy Efficiency Partnerships (NEEP) and its efficiency program sponsors in identifying the reasons to move upstream; provide an overview of the actions undertaken to execute; and share lessons learned on the process. As early as 2004 (residential) and 2005 (commercial) research suggested that rebates to the end-use customer alone were not adequate to move highly efficient HVAC equipment and practices (service and for residential, whole house strategies). As a result, NEEP and its sponsors began processes in 2005 (residential) and 2006 (commercial) to engage manufacturers, distributors and select contractors to discuss common needs and challenges in the HVAC sector with respect to building sales of properly sized and installed high-efficiency equipment. Efforts culminated in early 2007 with a series of face-to-face meetings between efficiency program staff and upstream partners to begin developing a specific program model to pilot in the commercial sector and to begin developing a more open-ended solicitation process in the residential sector. The process of inviting commercial market actors to participate in a specific pilot program and the open-ended solicitation for residential market actors were both undertaken during the 2nd and 3rd quarters of 2007, with negotiations and finalizing of the relationships in the 4th quarter for ramp-up of initial pilot efforts at the beginning of 2008.

Upstream programming in the HVAC sector is the “next frontier” and to the author’s knowledge the effort undertaken by NEEP on behalf of and in conjunction with its sponsors is the first of its kind, bring valuable insight and experience to attendees.

Introduction

Throughout the ages in the world of energy efficiency programs the paradigm for residential and commercial unitary air conditioning incentive programs has been relatively constant: provide incentives to the end-use customer via outreach and active “selling” by the contractor. In the northeast, residential programs have traditionally been run by the individual programs and have been built around customer rebates, filled out by the contractor as part of the sales and installation process; for the commercial market small unitary air conditioners have been rebated, again to the customer but with an option for assignment to the contractor. Sponsors have achieved this through individual programs and by a jointly implemented program called Cool Choice, managed via a NEEP working group process².

For a host of reasons, recent years have seen the market dynamics for air conditioning in the northeast change, with equipment costs and baseline efficiencies both increasing, making the savings to both

1 The author would like to acknowledge the contributions of his NEEP colleagues Jon Linn, David Lis, Melissa Lucas and Elizabeth Titus to the paper and the endeavor as a whole.

2 Northeast Energy Efficiency Partnerships (NEEP) is a non-profit organization that coordinates regional efficiency program activity in the northeast and mid-Atlantic region. The residential and commercial unitary HVAC initiatives present the region as one large market and leverage experiences and resources through efforts such as this upstream exercise.

efficiency program and end-use customer shrink. The rising prices in particular led the ever-so-competitive contractor community to focus more and more on “not losing the job”, driving the first cost to be the main concern and lowering the ability to take time and risk to upsell high efficiency or high quality. Even the willingness to take the time to fill out rebate paperwork apparently waned as rebate volumes showed signs of having reached a plateau. At the same time, evaluation activity and research led to awareness and policy interest in equipment sizing and installation quality. How can these multiple negative factors be dealt with to maintain and build market share, improve installation quality, and capture demand and energy savings while still being cost-effective and accepted by the market? One possible solution, which has been developing for three-plus years, is to change the program paradigm by focusing on the upstream market actors, including distributors and manufacturers, rather than exclusively on the end-use customers and contractors.

This paper describes the drivers and process of efforts undertaken beginning in 2004 in the Northeast³. Even as the activity continues today, lessons learned and initial outcomes are significant and will be discussed.

Research Drivers

Although there is no shortage of evaluation and research activity associated with residential split system and commercial rooftop air conditioning, studies and events that can be identified as initial factors in steering the efficiency programs in the Northeast toward upstream programs emerged in the 2004-2006 timeframe. As part of a 2004 strategic review of its own activities, Synapse Energy Economics suggested to NEEP that, with respect to residential HVAC, it “coordinate and implement cooperative campaigns with HVAC manufacturers to market ENERGY STAR HVAC systems” (Woolf 2004, 36). At roughly the same time, at the 2004 ENERGY STAR HVAC Partners Meeting in Chicago, one of the U.S. EPA’s main messages was around development of activities geared toward teaching and encouraging quality installation of residential HVAC systems. Meanwhile, a multi-party study was launched to develop strategies to increase efficiency of residential HVAC systems for the National Association of State Energy Offices’ State Technology Advancement Collaborative (Titus), which would, even while in process, serve to guide understandings of the northeast market and market actors as upstream strategies were being considered and developed. Activity with respect to commercial unitary HVAC remained centered on the jointly implemented Cool Choice program since the 2004 NEEP Initiatives Review of commercial and industrial programs recommended continuation of the effort (Schick 2004, 20). Nonetheless, the Cool Choice program was rather mature and the federal minimum efficiency standard for 5 ton and smaller would increase from SEER 10 to SEER 13 in 2006, leading the working group to explore the market and options for freshening or changing the program. A series of 2006 studies of the commercial unitary HVAC market in the northeast were conducted as follows: “Commercial Rooftop HVAC Unit Retrofit Programs” (a New Buildings Institute survey of programs being operated), “Packaged Commercial HVAC Equipment Market Characterization” (KEMA) and “Strategic Recommendations for Commercial HVAC Programs” (New Buildings Institute). The KEMA study, which characterized the overall commercial unitary HVAC market in the Northeast, notes the following market progress by the Commercial Unitary HVAC programs promoted by Sponsors for the 2005 program year.

³ With gratitude for their support, NEEP wishes to acknowledge the actively participating efficiency program sponsors, including: Efficiency Maine, Efficiency Vermont, New York State Energy Research and Development Authority, Long Island Power Authority, National Grid, NSTAR, New Jersey Clean Energy Program. Additional program sponsors considering the opportunity in the near future include Cape Light Compact, Western Massachusetts Electric, Connecticut Light & Power and United Illuminating.

Overall Market Size of Packaged Commercial HVAC Equipment

	Size (tons)	Total Sales (# of units)	Qualifying SEER/EER	Sales of Qualifying Units	
				# of Units	% of Total
A	<5	27,724	13.0 SEER	5,883	21.2%
B	≥ 5 to <11	13,392	11.0 EER	2,184	16.3%
C	≥ 11 to < 20	4,955	10.8 EER	917	18.5%
D	≥ 20 to ≤ 30	9,204	10.0 EER	2,002	21.8%
Total		55,275		10,986	20%

(KEMA 2006, 1-2)

KEMA noted that only 2,500 rebates were paid, representing only 23% of the total sales of qualifying units.

NBI focused on this data when it recommended moving upstream for cooperative programming (Hewitt, Cherniack, Reichmuth June, 2006, 7). By 2005 for residential and 2006 for commercial, the evidence suggested strongly the time had come to develop upstream strategies.

Preparing to Move Upstream

Given the novelty of the upstream approach, the long, stable history of operating rebate programs targeting customers and relying on the contractor, and the relative lack of relationships at the distributor and manufacturer level, the shift to upstream programming was (and even now is) not an easy one. As a regional efficiency organization operating via facilitated regional initiatives that coordinate, rather than directly operate, programs of the utilities and other efficiency program administrators NEEP needed to develop understanding, support and buy-in for the idea of exploring the upstream possibilities from its sponsors, the program administrators. Next, with very limited relationships beyond the contractor community, a significant amount of relationship building with the manufacturers and distributors would be necessary prior to “jumping in” to an upstream approach. Finally, of course, the question of what exactly an upstream approach looks like and how it would operate as a regionally coordinated effort of separately operated programs had to be answered.

With such a new, largely untried approach on the table, NEEP faced a tough challenge initially: securing support from the efficiency program administrators for a loosely defined and largely nebulous concept. The research and positive experiences with an upstream model in the residential retail lighting arena were pivotal to explaining the concept to program administrators and to securing the essential buy-in to the idea of dedicating NEEP resources to developing the concept. Research, as described above, suggested that upstream was the direction to go due to the opportunity to reduce costs and increase effectiveness, or market reach, of the programs.

Residential program administrators had been operating upstream cooperative promotions with industry in the compact fluorescent lamp (CFL) segment for several years. Residential CFL efforts reduced transaction costs from \$0.50 or more per CFL to less than \$0.10 and increased volumes of product placed tenfold or more by shifting from instant rebate coupons to wholesale price markdowns. The CFL model involved negotiating with manufacturers and retailers to pay a set incentive amount to the manufacturer or retailer in exchange for their pricing the product at a significantly reduced cost, often reduced by more than incentive amount due to the benefits of scale economies associated with increased production and distribution volumes. Incentives under this model are paid to the upstream partner once shipping and/or sales data are provided so not only are costs reduced and volumes increased, but improved market data is generated as well. With research data and a successful model in operation in another segment, sufficient support was secured from sponsors to explore the upstream opportunity in the HVAC market.

Building Relationships

Residential With support in place the need became to build relationships and “pave the way” to launch active pursuit of cooperative activities with the HVAC industry. In 2005, NEEP began developing relationships with HVAC manufacturers and distributors and facilitating introduction of program administrators to industry. By polling sponsors, advisors and existing HVAC contacts an inventory of potentially appropriate and interested contacts within the manufacturing, distribution and trade/professional association ranks was assembled. Throughout 2005, informal conversations about industry’s perspective on what drives the market and how to better impact it through efficiency programs led to the execution of a full day joint meeting in October between efficiency program staff throughout the New York, New Jersey and New England region with representatives of major manufacturers and distributors.

This meeting was carefully structured to “wade into” the idea of upstream cooperation by first presenting to industry an overview of the policy and regulatory constructs that programs operate under, and providing an overview of the 2006 directions being taken by the various efficiency programs. Based on EPA ENERGY STAR activity with respect to quality installation, a conversation was raised in which NEEP invited industry to provide their perspective on the issue of installation quality and sizing. This balance of “we’ll share with you” followed by “you share with us” was an intentional technique to build rapport and instill a sense of cooperation, equality and sharing. The afternoon was utilized to advance the question of how industry and programs could work together. A set of potential areas for cooperative work (consumer education, contractor training, trade school support, third party verification of installations and matching rebate campaigns) was offered to industry with the question: “Does this list sound right and feasible? Are there things to add or remove?” The discussion was followed by presentations by efficiency program staff of examples of how programs and industry have, in the past, already worked together on various education and marketing efforts. The outcome of the meeting was commitment to maintain contact, build relationships and explore on a program-by-program basis additional cooperative opportunities through 2006, which happened primarily in the form of joint sales and cost-calculator tools and ongoing relationship development.

Commercial The process of developing the relationships with industry was somewhat different for the commercial sector. Cool Choice featured a circuit-rider process that itself led to relationships at the distributor and to a lesser extent the manufacturer level. Therefore, the focus in 2006 was on strengthening those relationships and building them out from primarily between circuit-rider and distributor to relationships between NEEP and the distributors and manufacturers. The relationship-building culminated in a joint industry-efficiency program Charrette in October, 2006. The objectives of the meeting were much more clearly centered on the specific topic of exploring whether and how to move forward with development of upstream cooperative efforts. The initial conversations were focused almost exclusively on understanding the existing programs of NEEP sponsors and industry, how the HVAC supply chain works, and identifying the key market barriers. These discussions revealed a key fact: industry and efficiency programs do not understand each other very well and there are considerable misperceptions and misconceptions. With understandings firmed up, potential areas for cooperative activity were identified as so-called turn-key distributor programs in which program dollars go to the distributor rather than the customer, and the distributor moves the market how they see fit in order to achieve sales and market share goals; development of cooperative sales and cost-calculator type tools; early retirement of working systems/off-season sales; and targeting the design & build community to specify efficient equipment rather than baseline. Next steps were identified as moving rapidly to develop the potential for upstream effort.

Execution

By the beginning of 2007 all the pieces were in place to launch the process of defining and executing upstream cooperative promotions with industry in both the residential and commercial markets. The effort became extremely complex and laborious given the varying degrees of awareness and understanding in industry and the varying programmatic (budget, incentive strategy and data) needs of sponsors as well as planning and regulatory timelines that were different for virtually all parties. NEEP undertook an initial kick-off that entailed a series of joint meetings between industry and efficiency program staff to shell-out directions and processes for each of the two market segments. Given this input NEEP and its sponsors sought to build out the details, including solicitations and/or development of pilot program structures. The directions that emerged were distinctly different for the residential and commercial HVAC markets, leading to separate approaches to execution that were ultimately pursued.

Working with program sponsors, initial lists of potentially interested industry parties were developed and a series of kick-off meetings were planned for Providence, Rhode Island in April of 2007. Interested parties were invited to the meetings described as “to discuss working cooperatively to encourage the purchase, quality installation, and maintenance, of high efficiency heating and cooling equipment in the residential and/or commercial sectors” and given the opportunity to choose between joint meetings with their industry peers or separate, individual meetings with efficiency program sponsors. Based on their input, it was decided that a single meeting would be held bringing together the industry and commercial efficiency program staff, and a series of separate meetings between individual industry partners (manufacturers and affiliated distributors) and residential efficiency program staff. The rationale for this choice was driven by the suggestion of several of the industry partners and the perception that the commercial HVAC market actors were familiar with joint meetings, had recently met in October, 2006 and were not yet at a place in the development of upstream strategy development to discuss specific ideas that would warrant confidential treatment. Conversely, the residential HVAC market actors had been exposed to small-scale, information-oriented cooperative activity already and demonstrated themselves to be at a level of readiness to discuss specific ideas and directions that would benefit from the confidential, one-on-one format. Over the course of the two days of meetings representation from efficiency programs in each of the New England states, New York and New Jersey engaged with over a dozen industry parties, including representation from major manufacturers and distributors such as American Standard, Bryant, Carrier, Lennox, Trane and York.

Individual meetings were conducted with each of the five residential HVAC manufacturers and their distributor affiliates in 2 hours sessions over two days under the assumption that candor and depth of sharing would be enhanced by not having competing manufacturers in the room. The objective was to confirm that the residential market actors were indeed “ready” for a serious effort at developing industry-proposed cooperative promotional activities and to help shape the form a solicitation for the same would take. Indeed the conversations were frank and the information shared included considerable detail and was often competitively sensitive. Information gathered included:

- Details on manufacturers’ strategies and program structures for stimulating sales, generally through comprehensive incentive and marketing programs targeting both the customer (advertising, incentives, financing and warranties) and the contractor (incentive programs and sales contests)
- Details on manufacturer and distributor views on quality installation and contractor practices (some embrace quality installation as achievable and some do not based on potential for contractor push-back; most have some installation checklists or protocols, some of which include sizing). Generally equipment sizing emerged as the place where there is considerable promise of cooperatively achieving impact.

- Approaches already used for training and sales support (generally NATE and/or National Comfort Institute training is available and various cost-calculators are available)
- Perceptions on market drivers, barriers and opportunities (a theme was “fear price but sell quality and comfort”)
- Levels of engagement with existing utility-type programs (strong sense that these programs are too cumbersome and unstable in terms of year-to-year consistency for some/many(?) contractors to engage them)
- Levels of engagement with tax incentives as a sales strategy (many recognize this a great, “free” sales tool)
- Extent to which installation quality is viewed by manufacturers and distributors as creating financial exposure via warranty claims and product returns (from contractor callbacks to warranty claims this is a real issue)
- Whether off-season sales and early retirement are viable sales strategies (depending on the region there really may not be much of an off-season, and early retirement is great in theory but a very expensive sell)
- How the transition to R410A refrigerant impacts sales and installation (R410 is sufficiently different and under high enough pressure that proper charge *should be* more and more a necessity)
- How ductless mini-split and inverter-based technology are impacting the market (this is still a niche but the inverter technology’s efficiency creates a threat)
- Industry views on ECM motors and whether airflow correction can be “sold” without them (the industry must sell comfort and not lose jobs, so ECM will carry the day rather than duct system redesign and repair).

The meetings were successful, defined the approach to ultimately take, and provided a wealth of information for program operations. Although the general philosophies and directions to take in developing joint program activities were resolved, one key question that received some discussion but no clear sense of agreement was regarding definition of the data requirements of efficiency program staff and the ability of industry to meet them.

Discussions with commercial HVAC market actors were more of a “summit” format, bringing together all parties for a daylong discussion of the market, roles, practices and cooperative opportunities. The objective was to establish a path toward executing cooperative promotions. The history of a jointly implemented program (Cool Choice) for commercial equipment and the transition to separately operated programs in 2007 was very current and became a significant issue for the industry partners who stated strongly that regional consistency is important for manufacturers, distributors, contractors and customers alike⁴. Therefore, regional consistency became an immediate and constant theme for industry with respect to the commercial sector. Some of the key points of the commercial discussion included:

- The recently revised CEE efficiency tier structure and the tendency of utility-type programs to restrict rebates to Tier 2 and higher was generally stated as being “rejected” in the commercial unitary market because the sales process is much quicker and more first-cost oriented than in the residential sector
- In general production and stocking of higher efficiency equipment is geared toward emphasizing warmer climates

⁴ Given the plateau reached with the joint Cool Choice program, NEEP sponsors decided it would be more cost-effective for them to deliver programs separately with lower cost and/or in-house resources, and that such an approach could actually lead to more program innovation by not requiring development of regional consensus in order to implement new ideas.

- Price is not the only issue to consider. The larger footprint of higher tier equipment creates problems with the structural ability of the roof to hold it without additional support and often demands curb adapters to accommodate.
- For commercial interests, the economics of high efficiency are poor in the northeast due to relatively low run-time so incentives must be high to move the market and/or the target must be upstream rather than at the customer since “what is stocked is what is sold”
- The commercial unitary market is geared toward repair and maintenance not replacement so early retirement is viable but expensive as a promotional strategy, but the transition to R410A creates an opportunity to replace rather than repair due to potential incompatibility of R410 and existing R22
- With tighter margins and more cost-competition in the commercial unitary market contractors often could not, or would not, invest time in filling out rebate forms for multiple programs so “breakage” on the utility-type programs is very high
- Formula-based incentive structures based on tonnage and efficiency above a threshold are preferable to “flat” incentives
- Outreach and engagement of entities such as professional associations that specify equipment and influence product selection is important in the commercial unitary market
- Technical training regarding design, specification and installation is of value.

As in the residential meetings, the benefit of the discussion to program staff extended well beyond the immediate goal of moving toward upstream programming to informing overall strategy and existing programs as well. In the commercial meetings, the question of data requirements received attention as in the residential meetings, and similarly was not resolved.

A Residential Solicitation

The ultimate outcome of the residential meetings was to develop an open-ended solicitation process through which industry would propose cooperative promotional activities to the efficiency program administrators and the programs would respond. After the Providence meetings the tasks were to develop a solicitation document that would provide enough guidance to industry to enable responses that would be consistent with efficiency program administrators’ hoped for directions, yet open-ended enough to enable industry to both be creative and recognize the sincere interest of efficiency program staff in letting them set the specific direction for upstream cooperative work. Key to the solicitation was drilling down as much as possible on the data requirements of efficiency programs and reminding that data enables all utility-type programs to be assessed and documented as cost-effective. It was also critical to explain clearly that some, all, or none of the participating efficiency programs may opt to pursue any or all proposals so the cooperative activities proposed should be scalable to the extent possible. Furthermore, since the distribution chain in the northeast is not consistent across manufacturers the particular states and even programs within those states would be served by different distributors in some cases so the upstream parties had to be clearly instructed on how to identify which specific efficiency programs their proposal was relevant for. Finally, since parties other than those involved in previous meetings and discussions would be involved, sufficient background and context had to be developed to enable new parties to adequately understand the nature of the process, the utility-type programs involved, and the general direction being pursued.

The solicitation was released in late June and was followed by a bidder’s teleconference and subsequent one-on-one meetings or teleconferences with individual industry partners. The choice to conduct another round of one-on-one meetings was driven by experience in launching an upstream effort in the CFL market that clearly pointed to a need to “coach” preparation of responses to ensure that they were

reasonably consistent with expectations and capable of being compared with each other. Responses were due in mid August of 2007.

A total of 21 different proposals were received from ten different upstream parties in response to the June solicitation and one-on-one meetings. Proposals were of four general types:

1. Piggybacking efficiency rebates and in some cases marketing funds with existing manufacturer comprehensive programs, including customer incentives and marketing as well as in some cases sales incentives, sales tools, and training for contractors. These would serve to supplement, not replace, existing efficiency program incentive offerings.
2. Turnkey distributor-based programs that would provide a certain lump-sum per unit of equipment sold and in some cases a fixed administration fee to the distributor, who would then utilize the funds for whatever incentive, advertising, training and sales or stocking incentives would achieve the targeted sales volume. These would replace, not supplement, existing efficiency program incentive offerings.
3. Pure marketing co-op which would utilize efficiency program funds for print, radio, television, in-store, and/or truck signage advertising.
4. Training and tools programs that would use efficiency program funds to supplement industry funds for contractor training and/or subsidized pricing for sales and/or quality installation tools.

Over a ten week period, through October, NEEP facilitated review of proposals, follow-up questions and discussion with industry, and identification of which efficiency programs intended to follow-up and pursue agreements with which proposers. Ultimately, almost half of the sponsors found themselves under a combination of regulatory/policy, budget, or program timing constraints that prohibited participation immediately and the other half proceeded to work toward agreements with industry first on incentive-oriented promotions and next on training and tools programs. As of December 2007, agreements are being finalized with kick-offs via partner distributors' winter dealer meetings being scheduled for late January and February, 2008.

A Commercial Pilot Program Model

The ultimate outcome of the commercial unitary meetings was a commitment by all parties to work together to develop a pilot model for upstream programming and, upon completion of a consensus model, poll both sides to determine who would adopt the model for a 2008 pilot and who would not. On a relatively fast-track, follow-up and discussions led to provision of a straw draft program model to industry in May 2007. The elements of the initial proposal included:

1. Pilot would replace, or in some cases supplement customer direct rebate incentive programs.
2. Eligible sales would include those for new construction, major renovation, replacement of failed units and early replacement of existing units.
3. Incentives would be offered for economizers and demand control ventilation.
4. Incentives would be structured on per unit, per ton basis for AC.
5. Incentive funds would be used at distributor's discretion.
6. Participating distributors would be responsible for verifying customer eligibility and collecting and reporting installation location data

The general framework was acceptable to all parties and led to several months of developing data requirements and securing efficiency program commitments to pursue the pilot. A number of significant barriers emerged at this point, including regulatory policy concerns about the "chicken and egg" of embarking on a major program shift without regulatory approval and securing regulatory approval without validation of the model; contracting and procurement logistics; how to phase-out customer rebates and

execute the transition; and how to handle the issue of non-participating distributors. The bigger question of how the pilot would be administered (jointly or by each participating efficiency program) was quickly resolved by agreeing that each efficiency program would administer the pilot independently. Through October program model details and draft language for a form of agreement by the efficiency programs, seeking industry input to the program model along the way. Also through the fall, the final decision-making as to which efficiency programs would commit to participating occurred. Ultimately, just as in the residential sector, about half of the sponsors committed to the pilot for the beginning of 2008, with the other half either opting or needing, as a matter of regulatory policy and/or budget and program strategy, to wait until later in 2008 to potentially join. The final two months of 2007 saw participating efficiency programs and industry work toward agreement to launch the pilots early in 2008.

Lessons Learned

The process of shifting from downstream, customer-oriented strategies to upstream, industry-oriented strategies on a regional basis for residential and commercial HVAC efficiency programming has been as challenging as it has rewarding, with numerous lessons along the way.

Patience and Courage First and perhaps obviously given the almost four year effort to develop upstream HVAC activities in the Northeast, patience and tenacity are essential to wrestle with the myriad logic and logistic issues described herein. Regardless of the size of the programs or region it became clear that trust, clarity of communication and relationship building were critical to the success of the Northeast's process, despite the fact that this represented a significant amount of the time investment. These issues of trust, clarity and relationships were revealed as critical not just between the efficiency side and industry, but also even within the multiple parties on the efficiency side! Some of the issues raised in this vein included:

- Trust among the efficiency programs. That when it comes time to execute agreements, all parties had to be clear and in agreement about issues such as cost-sharing between industry and efficiency programs.
- Trust among industry partners. That there would be a conscious effort on the part of the efficiency programs to develop programs equitably so one manufacturer/distributor would not have an advantage over another and so that neither those manufacturers/distributors who participated in an upstream agreement or did not participate had an advantage over the others
- Clarity of how money would flow and when.

That there was "process" risk, such as those issues above, for all parties during development and ultimately upon launch of these new program strategies and that such risk had to be managed became clear.

Courage has become a theme as NEEP de-briefed, and continues to de-brief internally – courage to continue to move the process forward was at times exhibited to the benefit of all and, frankly, at other times it was not, leading to delays, loss of clarity and at times loss of momentum. With so much new ground being broken all parties had their moments of wanting to throw their hands up and surrender to the challenges, risks and long process. Related to the relationship building and trust, it became evident that unwavering optimism, encouragement and affirmation were all necessary.

Regulatory Buy-In Revelations about regulatory and policy issues encountered along the way in the Northeast led to a clear lesson about the importance of recognizing the need for efficiency program staff and, also in this case, the regional entity facilitating the process, to conduct significant regulatory outreach and secure understanding and buy-in early and often. Through the course of time, it became clear at various points that what the regulator's position, or at times the efficiency program's understanding of that position,

did not mesh with the actual directions being pursued. For example, there were at times, resulting in considerable delays, associated with resolving issues such as:

- Will an upstream cooperative promotion involve only an incentive paid through a distributor or will it involve incentives through a distributor and a traditional efficiency program?
- When will these deals actually roll-out and how will programs transition to them?
- What will be the mechanics of contracting and payment, and will this fit with the regulatory cost-recovery/administration model in place?
- Is it allowable to negotiate different deals with different parties?

Cost recovery and regulatory approval are obvious, non-negotiable pre-requisites and all parties to an upstream process need to be aware of this reality, and need to work to minimize this regulatory risk.

Internal Review The need to engage legal/contract support and evaluation staff throughout the process has been identified as important to streamline the pace of review and the iterations of drafts. For example, had data requirements received more attention early in the process the “end game” could have moved much more quickly. From both a legal perspective and a supply chain/procurement perspective, attempting to develop and execute agreements for new processes with new partners made itself known as a challenge. Not only review of documents, but also explaining concepts, regulatory encouragement (not pre-approval) and roles all required time. To undertake the legal and procurement efforts within the organizations of all parties and then to arrive at a mutually acceptable set of agreements and process understandings was critical and no small task to be sure.

Communication A final major lesson learned is to be clear on what commitment looks like and what exactly it is being sought for. In the Northeast’s process delays were significant at various times because different parties had different understandings at times about where we all were in the process and whether various parties were “in” or “out.” Frustration was at times clear on various parties as it was revealed that what most parties thought was agreed upon was actually not.

Conclusion

The upstream movement of HVAC programs in the Northeast has proven to be a learning experience in building relationships, developing processes en route, and in general evolving program strategies to meet needs and overcome weaknesses in existing strategies. Without question, keys to the success thus far in the Northeast can be defined as commitment and perseverance. Breaking new ground has proven not to be easy, straightforward, or even comfortable at times. However, in reflecting on the efforts of the Northeast parties, a number of lessons emerge. They have identified myriad benefits achieved through the process, not just to the immediate goal of building market share for high-efficiency HVAC equipment through cooperative activities. But also, they have helped us all to further understandings of the market dynamics. This includes roles and drivers of the various market actors and the value of finding common ground among efficiency programs and between programs and industry. The ultimate outcomes in terms of demand and energy savings are not yet clear as the parties continue to finalize promotional agreements, but that the effort will prove itself well worth the investment has already been proven.

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