

Taking a Holistic Approach to Markets: How Efficiency Vermont's Transition From Programs to Markets Is Changing the Way Energy Efficiency Services Are Developed and Delivered

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ABSTRACT

Efficiency Vermont was initially charged with delivering a pre-defined set of “core” energy efficiency programs across the state of Vermont under a performance based contract with Vermont’s Public Service Board when it was created in 2000. From the beginning, there was movement away from the constraints of these program boundaries. With each year of experience, Efficiency Vermont increasingly recognized that the internal barriers and external service gaps created by programmatic definitions were both impeding the ability to consistently affect the market and creating unnecessary confusion and barriers for customers and strategic partners.

Efficiency Vermont adopted a new approach and operating structure in 2003, with the approval of regulators, which integrates planning, development and implementation of market based services to customers and strategic partners, creating new momentum and opportunities in the marketplace. Business and residential Market Strategy Teams now take ownership for the full sector, looking across all boundaries to understand the players and interactions involved in decisions affecting energy use, employing integrated strategies to cost effectively impact those decisions, and reducing energy use. Market Strategy Teams include business development, marketing, planning and implementation staff and have access to information technology (IT), and technology and analysis resources to support their work. This paper lays out the transition from a set of core programs to markets, documenting a new operational paradigm for energy efficiency, including a discussion of what Efficiency Vermont has achieved in the early stages, and looking forward to a vision of fully integrated energy efficiency services.

Background

When Efficiency Vermont began operation, it implemented explicit, pre-defined programs, but over the past four years has undertaken a transition to a fundamentally different, market approach. In 1999 the Vermont Public Service Board (PSB) issued an RFP for a statewide energy efficiency utility to deliver seven “core” energy efficiency programs statewide. This new approach supplanted the prior delivery of efficiency programs by electric utilities under PSB regulation with non-utility program administration under a performance-based contract (Hamilton and Dworkin, 2004). The services to be provided under this new arrangement, operating under the name Efficiency Vermont, were defined in the RFP as the following programs:

- Commercial and Industrial Market Opportunities Program
- Commercial and Industrial New Construction Program

- Low-income Multifamily Program
- Dairy Farm Program
- Residential New Construction program
- Residential Low-Income Program
- Efficient Products Program

As the initial three-year contract period was coming to a close, and the Efficiency Vermont contractor was preparing for an optional contract extension, a critical examination of experience to date was undertaken. The internal boundaries between programs and the inability of programs to address trade allies and customers holistically were identified as significant barriers to greater success. The response was the development of a concept of statewide energy efficiency services for all sectors *without* program boundaries, focusing instead on offering customers a *range* of energy efficiency products and services that cut across previously defined core programs. The vision was of seamless service delivery so that Efficiency Vermont could effectively stimulate desire for energy efficiency in the market and expand the state's resources for energy efficiency. The new approach was proposed to Vermont's regulators and the transition away from programs to a market based approach was approved. A key factor enabling the approval of the markets approach was that savings could still be reported in the original program categories as well as by market, allowing for historical comparisons of results.

Energy efficiency program design and delivery in Vermont has been evolving over the past two decades along the same patterns as elsewhere in the country. Early efforts focused primarily on *technology*, with offers typically designed and implemented for individual end uses such as lighting or hot water conservation measures. Technology-based efforts tended to offer prescriptive rebates through standardized forms increasing customers and trade ally familiarity with the technical criteria and the rebate amount associated with specific technologies. While this approach enjoyed early success, opportunities to capture additional savings from interactive measures were often missed and this approach failed to exploit market events such as new construction or major renovation.

The second generation of energy efficiency efforts sought to complement the technology based approach by focusing on the market events that were being missed and effectively treating them by establishing *programs* to provide services to the targeted market segment and the market actors working within that segment. Implementation, budget, goals, management, reporting, marketing and outreach were organized under independent programs, typically overseen by program managers, creating a discreet set of program services and program identities both internally and in the marketplace. This top-down, vertically integrated structure was reflected in the early charge for Vermont's energy efficiency utility. The overlaps and gaps that can result from this approach are evident when examining a common program-based approach to the new construction market, where there are typically separate programs serving the residential and commercial new construction markets. Many architects, engineers, developers and builders work in both commercial and residential construction. Trade allies do not typically divide neatly along programmatic lines. Perhaps even more important, a large commercial or industrial customer who is building an addition, renovating a portion of the adjacent building and replacing an air handler at a separate location, all at the same time, is not well served by segmented programs.

Based on the failings of the *programs* approach in meeting the needs of customers and changing the market, Efficiency Vermont conceived of a *markets* approach. The markets approach looks holistically at customers and market actors and delivers services to increase the adoption of higher levels of efficiency in more transactions across the entire market. This approach relies on elements of both the technology and program approaches that preceded it, integrating standardized rebates and targeted approaches to specific markets into an entire suite of fully integrated services, capitalizing on the synergy between Efficiency Vermont's activities in the marketplace.

Table 1. Critical Elements of a Markets Approach

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| <ul style="list-style-type: none">• Eliminate program boundaries• Customize approaches to meet the needs of targeted market actors, events and supply chain• Develop dynamic service delivery and communications structures oriented towards understanding and meeting the needs of market actors rather than recruiting them into programs. |
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A Market Approach to Energy Efficiency

A market approach to structuring the delivery of energy efficiency integrates internal development and delivery of services to produce a seamless set of messages and services in the market. The internal integration transcends the boundaries created around programs, applying the best ideas across markets and customizing services and approaches to meet specific customer or trade ally needs. The benefits of this approach include:

- Customer friendly - eliminates customer confusion about which program has the best offer or which one applies, and provides a single point of interface, simplifying customer participation.
- Increases partnership opportunities - enables the service delivery organization to work effectively on a business-to-business basis, aligning energy efficiency objectives with the business objectives of partners to capture the greatest mutual benefit.
- Improves internal efficiency and effectiveness - removes competition between programs by establishing a set of common goals and a mandate for integration, increases internal collaboration and reduces cost of serving customers.
- Eliminates conflicting messages both internally and externally.

These benefits result in higher participation rates both by customers and strategic partners, yielding more and deeper savings and enabling long-term changes in practice.

The elimination of programs from Efficiency Vermont included a complete shift from the operating and communication structures as well as the language established under the program paradigm. Programs and program managers were eliminated and replaced with a new service-based market team structure. The market teams are responsible for the design, development and delivery of fully coordinated services. Marketing materials no longer refer to "programs". Direct outreach to customers and partners is holistic; when Efficiency Vermont staff members

are in the field they must be able to respond to questions or requests outside of their area of specialty. For example, if a business development specialist who focuses primarily on commercial and industrial work is meeting with a lighting vendor, s/he must be able to speak knowledgeably about the residential services that overlap with that vendor's market as well as the business services.

This approach enables Efficiency Vermont to interact with the market comprehensively in a consistent and pervasive manner so that energy efficiency will be available and considered in each market transaction. Each market actor is supported in improving their awareness of the benefits of the energy efficient option, whether it is the homeowner investing in comfort, the HVAC vendor differentiating itself in the market by promoting high quality systems, or the building owner interested in decreasing vacancy rates by providing daylighting. At the same time, Efficiency Vermont uses these interactions to increase its understanding of the market barriers and drivers, which enables continuous feedback on and improvement of service design and delivery, increases Efficiency Vermont's influence in the market place, and supports long-term increases in the pursuit and adoption of high levels of energy efficiency.

Segmenting “Messy Markets”

While approaching the market “as a whole” can be overwhelming due to its scope and complexity, attempting to break down the market into manageable pieces presents a separate set of problems. Markets are inherently messy. They are not neatly bound by definitions such as residential or business - a multifamily property is typically operated as a business, by a business entity, yet is occupied by residents who may have individual residential utility accounts. They may include commercial grade mechanical equipment and residential grade lighting. Certain market segments cut swaths across any boundaries one might attempt to establish to compartmentalize market services. For example contractors, whether HVAC contractors or electricians, typically work in both the residential and commercial markets; they work in new construction and in existing facilities; they do retrofit and lost opportunity projects. Clearly the dynamic nature of the marketplace calls for the responsive development and delivery of services that recognize its complexity.

The initial problem faced by Efficiency Vermont in implementing a market based approach was how to redefine markets, market objectives, and market strategies that would better meet the needs of the market while delivering on mandated resource acquisition and market transformation objectives of the contract with the PSB. The critical elements Efficiency Vermont used in establishing services under the market approach were: 1) understand markets are messy; 2) define them as simply as possible while identifying and dealing with cross-over issues; 3) eliminate service gaps, sharing goals across all services; 4) set priorities that are achievable in the near term founded on a long term vision of market transformation; 5) identify the most important segments of market actors that transcend boundaries and address these critical market components; and 6) be flexible in meeting regulatory reporting requirements.

Defining Markets and Players

Clear definitions of the different market components were developed to establish a common language, increasing internal consistency among Efficiency Vermont staff who had

historically been focused only within the sectors associated with the original programs, thereby addressing some of the internal barriers created by the traditional program approach. No matter where boundaries are created by definition, they must be flexible in order to fulfill the objectives of eliminating internal boundaries and providing comprehensive and seamless services and communications in the marketplace. Efficiency Vermont identified and defined the following key market components:

Market: the market includes the *human element*: customers and partners (market actors); the *technological element*: technologies, systems, industry practices, supply chain and design; the *physical element*: new and existing buildings and energy using equipment located outside of buildings; the *economic element*: the local, national and world economy. While the market can be segmented into the business and residential sectors for some purposes, it should be with the understanding that there is no rigid boundary between the two segments, and for some (and sometimes key) market actors this boundary is meaningless. The perceptions of the market actors are of primary importance, as they are the ones who ultimately make efficiency choices. Focusing on the human element helps clearly identify needs, benefits and barriers to energy efficiency acquisition allowing the development of tailored approaches to capture the unique opportunities associated with specific groups of market actors.

Customer: Individual(s) enabled to act on his/her own behalf or on the behalf of an employer to secure energy savings and the people who influence those decisions. The people who influence can be an important constituency in the decision making process, examples include the parents and students of a school that is undertaking an upgrade or the customers of a retail business that is changing its lighting.

Strategic Partner: Individuals or organizations who interact with the customer and may potentially impact the customer's energy related decisions. Groups included are: design professionals, trade allies, real estate professionals, business associations, funding entities, government and public service groups.

These broad definitions provided Efficiency Vermont with a foundation for working across the entire market. Further segmentation of the market enabled refinement and targeting of approaches. While the segments have similarities to traditional program structures, it builds on what worked in the past, integrating it into the markets approach. Maintaining some of the historic segments allowed for a smoother transition from programs to markets. For example,

- New construction and existing buildings present different opportunities and have some relatively discreet sets of market actors, as well as significant overlap that gets identified and addressed in the market based approach.
- The retail market is a critical interface point for residential customers with cross over for small business customers.

In addition to establishing overarching market segments, Efficiency Vermont targeted market actors who transcend boundaries and work in broad swaths of the market. These segments offer unique opportunities, barriers and relevance to resource acquisition or other critical performance metrics. Examples of market segments targeted by Efficiency Vermont include:

- Ski areas
- Lighting vendors

- Design professionals
- Schools

While the definition and segmentation of markets is certainly not new in the energy efficiency industry, the underlying intent of breaking down the internal boundaries created by the historic program structures that operated along the lines of the definitions is somewhat unique. The next step Efficiency Vermont undertook was to establish an operational structure that supported the theory of seamless and comprehensive services to the market.

A Market Oriented Operational Structure

Efficiency Vermont embraced the challenge of retooling both structure and operations to support a market approach, eliminating the internal boundaries and barriers created by programs. A team-based structure was created; at the highest levels addressing the residential and business sectors and at subsequent levels promulgating approaches tailored to the various market segments and swaths established as priorities in Vermont's market. Organizational changes were necessary to remove some of the internal program boundaries; staff was freed from prior program affiliations, working across markets to deliver comprehensive services. The types of teams that were formed is described below and illustrated in Figure 1.

Market Strategy Teams: At Efficiency Vermont, two high-level “market strategy teams” were charged with setting the long-term vision in the markets, developing goals and facilitating the implementation of market-wide services. The teams are comprised of market, operations, business development, marketing and planning staff. These team work both at the strategic and tactical levels providing vision, guidance and input to service development and delivery. There is some shared membership across the business and residential market strategy teams to support coordination.

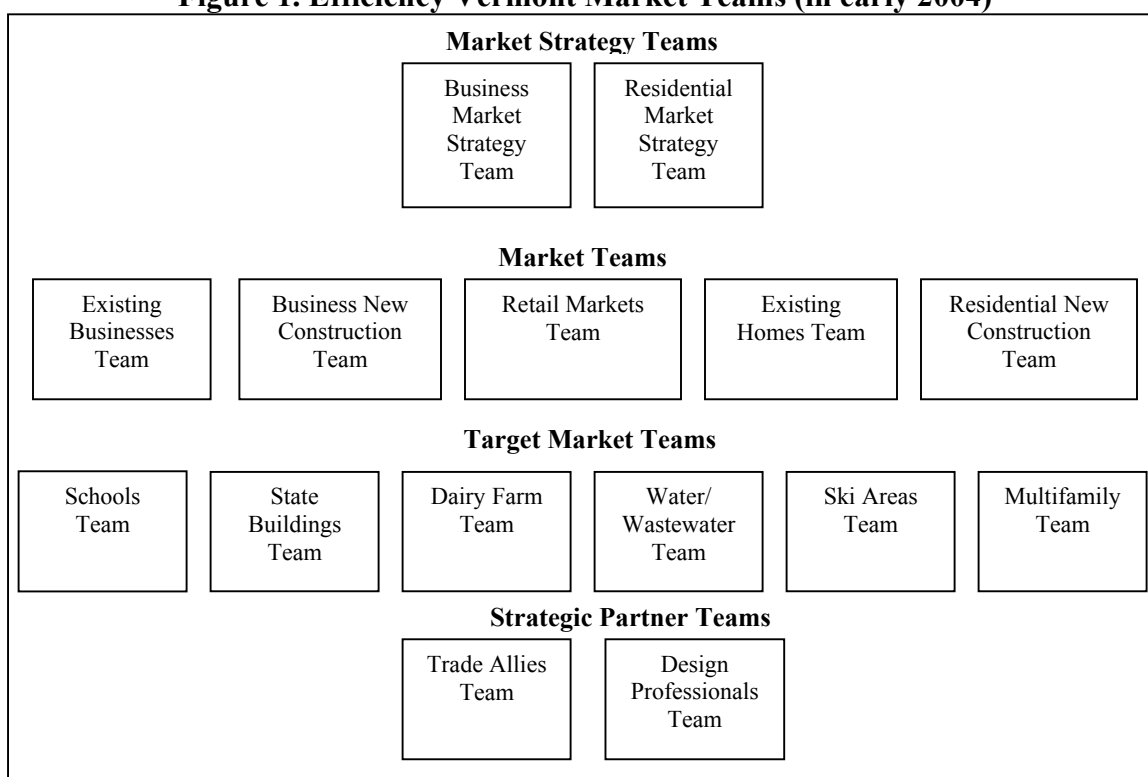
Market Teams: Market teams were established to work at the tactical level across broad segments of the market such as new construction or existing buildings. These teams typically include markets, operations, planning and business development staff and draw on technical, IT and marketing staff as needed. Target market teams were given responsibility for addressing a specific segment or swath of the market, such as ski areas or schools, to ensure services are tailored to address the specific needs and barriers in that segment.

Strategic Partner Teams: Efficiency Vermont established these teams to focus on groups of market actors including design professionals and trade allies. These teams were charged with providing the strategic partner outreach and communications necessary to support the objectives of the market teams.

In order to support the coordination and communication of this rather large group of teams, staff were assigned to work on multiple related teams. In addition, Efficiency Vermont instituted a planning and communication mechanism called the Market Brief. The Market Brief captures the key elements of the strategic planning and development for the markets as well as documenting tactical plans for service delivery. Each of the market teams develops or retools its Market Brief on an annual basis, establishing a high level of connection with the goals established across the organization, and engendering a deeper understanding for the drivers behind the work which informs decisions that are made on a daily basis. The market teams and market brief process enable effective internal collaboration in the development of a cohesive

approach to the market thereby increasing interest and uptake of energy efficiency across the market.

Figure 1. Efficiency Vermont Market Teams (in early 2004)



Market Based Services - Development and Implementation

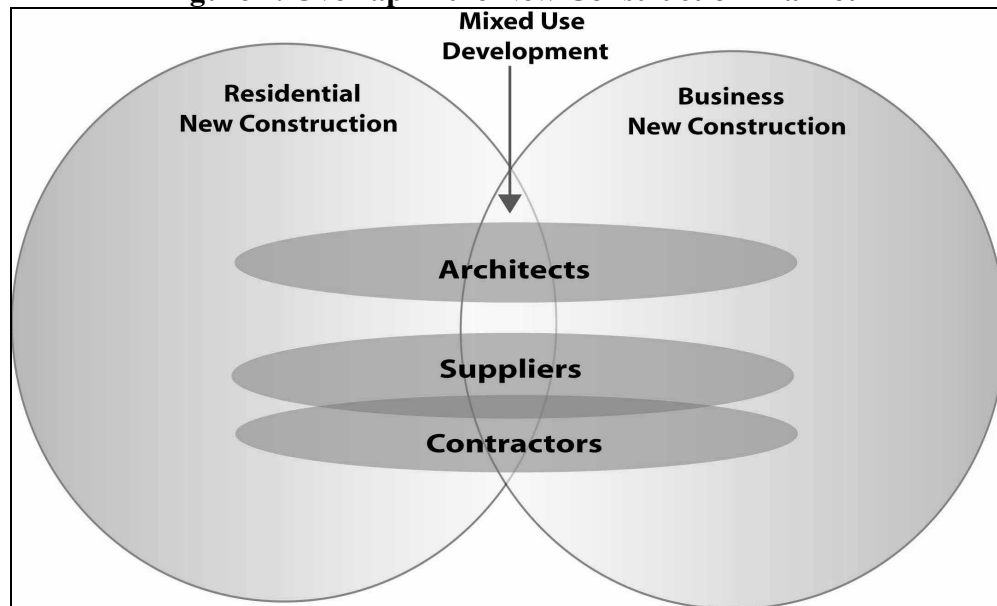
Efficiency Vermont began implementing this new approach in August of 2002, developing vision statements for the market segments and providing tools for the market teams to use in the development of their market goals, strategies and tactics. While their markets approach is still evolving and maturing, Efficiency Vermont is already experiencing successes and obtaining feedback that informs the continued refinement of their approach. The examples below demonstrate the development and implementation of the markets approach at Efficiency Vermont.

Supporting Best Practices in New Construction

The construction of new buildings provides one of the greatest opportunities for comprehensiveness and the embedding of energy efficiency into the built environment. It is also a market segment that operates along a set of relatively clear processes and procedures. Figure 2 shows the overlap among strategic partners and customers in the new construction market; the overlap, or messiness of the segment calls for a holistic approach. Technology overlap between the residential and business new construction markets is considerable as well, with more

residential grade equipment being installed in small commercial and multi-family buildings and more specification grade equipment being installed in large homes.

Figure 2. Overlap in the New Construction Market



One example of how Efficiency Vermont is working to increase comprehensiveness and improve the quality of new construction projects across is Efficiency Vermont's annual new construction conference, Better Buildings by Design. This conference provides education to architects, engineers and home builders while allowing Efficiency Vermont to obtain input and feedback from the market and enroll new projects. Conference attendance exceeded 900 in 2004. Cross-training was evidenced by architects attending contractor demonstration sessions on the construction of air tight drywall; homebuilders participating in sessions on lighting and health; and electrical engineers attending a demonstration on kitchen lighting. This cross-market sharing of information increases the likelihood of success when those players work together on new buildings.

Another example of the application of a holistic approach in the market is demonstrated by an Efficiency Vermont project manager's interaction with a developer who was building low-income multi-family and market rate multifamily buildings for different customers, as well as commercial retail space, all as part of a larger development project. The initial engagement was on the low-income multifamily facility based on the requirement of the funding entities that Efficiency Vermont be included in the project design and construction. The Efficiency Vermont project manager was able to demonstrate the benefits of high levels of energy efficiency including a heat recovery ventilation system, all of which were integrated into the design for the affordable housing project. The developer literally told the project manager, "I want what you did for me on the affordable project for my other projects." The project manager was able to apply similar approaches across the low-income, market rate and commercial projects as well as addressing parking lot lighting. From the developer's perspective, he got to work with one project manager who he trusted to give him the service and technical advice he needed on all of his projects, while Efficiency Vermont realized deeper savings at lower costs (incentives totaled

approximately 25% of incremental cost on projects that included comprehensive treatment of energy efficiency from the envelope to the end uses). At the same time a strong customer relationship was established and increased knowledge and awareness of the benefits of energy efficiency was created on the customer's part. Efficiency Vermont reported the projects under three different program headings in their annual report to the Vermont PSB, yet the customer was served seamlessly.

Serving Vermont's Ski Areas

The ski industry is a significant contributor to Vermont's economy and one of the largest consumers of electricity in the state. Ski Areas have complex organizational structures, frequent ownership changes and are highly regulated by Vermont's land use statute, Act 250. Distribution system constraints often limit flexibility relative to large additional peak loads. Ski areas develop everything from high-end detached single-family housing to hotels and industrial process applications for snow-making. Under a program-based approach, they might be served by as many as six different efficiency programs, each perhaps with different marketing, customer representatives and offers. Efficiency Vermont instead treats ski areas comprehensively, recognizing that they will best be served by accepting that their critical defining characteristic is precisely that they are ski areas. Each ski area is directly served by a designated business development specialist and project manager who are familiar with mountain operations, housing, and staff, as well as with the multiple projects on which Efficiency Vermont is engaged. Members of the ski team meet with ski area management on a periodic basis to develop projects and to get input on the ski area's needs which informs the development and improvement of services.

A key aspect to Efficiency Vermont's success with the ski areas is the strong relationship it established with the business association serving the ski areas. The Vermont Ski Area Association (VSAA) provides Efficiency Vermont with regular access to members at annual meetings at which Efficiency Vermont recently coordinated a presentation on energy efficient motors, and via their newsletter which frequently includes articles developed by Efficiency Vermont in collaboration with ski areas to highlight successful projects.

An example of how the Efficiency Vermont's Ski Team, serving the Ski Area Market Segment, is working to address ski areas holistically is a project it has undertaken in collaboration with VSAA. Working with a snow making expert, the Ski Team is developing the next generation of snow making energy efficiency measures for Vermont. The end product will be a comprehensive technical guide addressing ski area facilities and operations and providing guidance on opportunities for efficiency improvements through retrofit, equipment replacement and new construction events in housing, base and mountain operations.

One ski area approached Efficiency Vermont requesting to be designated "the most energy efficient ski area in Vermont." The ski area formed an internal team expressly to work with Efficiency Vermont. In response, Efficiency Vermont is exploring its role in helping define Vermont's ski areas as environmentally conscious in partnership with the VSAA and tourism industries in Vermont. An early effort in this area was a high end residential development that presented significant customer barriers to installing compact fluorescent lighting. Efficiency Vermont worked with the ski area to develop a sample marketing piece to be used with a model home to demonstrate the aesthetics and the environmental benefits of the

lighting while enticing potential home owners with their critical role in helping "keep the Green Mountains green".

Promoting New Technologies

The markets approach is useful in promoting technologies as well as in moving from a technology specific to a systems-based approach. One example is the development of a more systematic approach to small commercial refrigeration resulting from project managers' perceptions of how customized service delivery to small commercial customers was not working. The barriers identified included the difficulty in getting incremental cost and savings information on a project basis, reluctance of vendors to bring projects into Efficiency Vermont, and the time invested on each project for relatively modest savings compared with larger custom projects. The last was an internal barrier, but it was significant in driving Efficiency Vermont staff to look for a solution. Efficiency Vermont worked collaboratively within the market team structure to develop prescriptive rebates for small commercial refrigeration. Efficiency Vermont established a partnership with the refrigeration contractors' association to do outreach and developed a customer friendly marketing piece that contractors and Efficiency Vermont customer service specialists use to help small commercial customers understand the opportunities and benefits. Participating vendors are listed on Efficiency Vermont's website and receive referrals from customer service or project managers. The new tools enable vendors to be more comprehensive and help Efficiency Vermont address their project load issue by establishing vendors as effective partners in service delivery. The process improved Efficiency Vermont's relationship with these trade allies, increasing engagement on custom projects.

Another example is work that is currently underway with HVAC contractors. Efficiency Vermont has a contract requirement to increase business savings from HVAC equipment replacement and retrofit projects by 20%. In addition, the residential market teams are looking at central air conditioning and furnace fan measures to increase savings in existing homes. In this context, Efficiency Vermont has identified several areas for integrated, cross-sector efforts to increase participation with HVAC contractors for both business and residential applications, including integrated approaches to marketing, training and communications. Consideration of internal approaches for consistency and cross-fertilization is critical for providing seamless service to HVAC contractors. Efficiency Vermont examined upstream incentives for vendors across the residential and business sectors to ensure continuity. It considered abandoning a current regional rebate form for commercial air conditioning incentives so that a single form could be established for prescriptive HVAC incentives in both the residential and commercial markets. While Efficiency Vermont rejected the idea of a single form, the fact that it was identified and considered as an opportunity to streamline services from the trade ally's perspective demonstrates significant organizational adoption of the market approach.

These are a few examples of the success Efficiency Vermont has experienced with the markets approach. It has effectively changed its orientation from *what Efficiency Vermont does* to *what the market needs*, thereby more effectively integrating energy efficiency into the market based on Efficiency Vermont's understanding of the market at all levels in the organization.

Conclusions

There are some critical factors that have allowed Efficiency Vermont to adopt and proceed with the markets approach to energy efficiency. The following elements supported Efficiency Vermont's successful transition from programs to a market approach and could be useful to other entities pursuing the implementation of seamless services to capitalize on the synergies in the marketplace:

1. Establish a high level of comfort with responsible regulatory agencies that the new approach will fulfill regulatory objectives for resource acquisition and market transformation while offering tangible improvements over the proscribed paradigm.
2. Ensure that reporting is flexible so that it can meet regulatory reporting requirements while delivering information about markets as a whole.
3. Adopt an organizational attitude that embraces change in order to maintain and grow in effectiveness while serving the dynamic marketplace. Foster an environment in which staff members actively seek change for the better and work to integrate ongoing feedback from the field into service design and delivery.
4. Establish priorities for transition - maintaining services externally is essential throughout internal operational and organizational changes.

Efficiency Vermont's internal integration of planning, development and implementation, as well as a holistic view of the market, supports innovation, better responds to the needs of the market as defined by the market actors and increases operational efficiency. This has enabled Efficiency Vermont to achieve proportionately higher impacts each year relative to limited available resources. Key to this achievement is an ongoing commitment to serve markets by understanding them and developing and delivering services that reflect market dynamics and the needs of market actors.

References

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