

Can Efficiency Keep the Rustlers Out? Energy Efficiency as a Customer Retention Tool

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The rapid onset of increased competition in electricity markets has spawned a wave of restructuring in the electric utility industry. This deregulation trend, proceeding with varying speed in different states (rapid in some such as California and Massachusetts, barely detectable in others), has raised concerns that the benefits of Demand-Side Management (DSM) will be eroded as utilities are released from the Integrated Resource Planning (IRP) processes that have driven DSM development.

This paper examines the potential for sustaining energy efficiency investments in deregulated electricity markets. It focuses on customer retention as a continuing goal of electric utilities and their successors, and describes current research and market activity that indicates the potential for customer retention to sustain energy efficiency as an energy services marketing offering.

It highlights the results of recent customer research conducted for utilities researching competitive energy services and pricing offerings, and draws upon the broader competitive customer research literature as context. The paper addresses issues related to market segmentation, customer attitudes and perceptions, satisfaction, and preferences for new pricing and energy-related service offerings.

This paper concludes that energy efficiency will continue to be a vital part of energy services markets in an unregulated electricity industry. Electricity retailers will use energy efficiency as part of their offerings to retain market share and customer revenue. However, market forces will support vigorous energy efficiency investment only in certain customer segments—those in which customers value such services, and in which these services can be marketed profitably.

Market forces will also expand the definition of energy efficiency to a more customer-driven set of services. Efficiency will be bundled with other energy-related services that are determined according to customer-defined value, rather than by the resource-value criteria used in regulated DSM.

Deregulated energy efficiency will not be self-sustaining in all market segments, such as low-income residential and some smaller commercial customers such as nonprofit organizations. Improved codes and standards, market transformation efforts, and ongoing publicly-funded efficiency programs will be needed to serve the needs of these customers, and to sustain the societal benefits of energy efficiency in their facilities.

INTRODUCTION

Background

Energy efficiency has come to be viewed as a staple product of the electric utility industry. Millions of utility customers around the country have enjoyed lower electric costs, improved facilities, greater comfort, deferral of new generation costs, and other benefits. Energy efficiency investments have also prevented substantial pollutant emissions, made the total cost of housing more affordable, supported job creation, and generated other societal benefits.

The prospect of increased competition and industry restructuring in the electricity industry has raised concerns about

the sustainability of energy efficiency. Utilities are concerned that the costs of DSM and the planning processes that have regulated them are not sustainable in a competitive market. Efficiency advocates and others are concerned that the benefits of DSM-driven efficiency investments will not be sustained, with substantial losses to customers and to the cause of environmental improvement.

Scope

This paper examines the potential for sustaining energy efficiency investments in a deregulated electricity industry. Market forces, including electricity retailers' goals of sustaining market share and customer revenue, and customers' needs for reduced energy costs, facility modernization, improved

comfort and control, will intersect in many markets such that utilities will continue to include energy efficiency among their energy service offerings. This analysis is a preliminary examination of the markets and offerings that are likely to sustain energy efficiency investments, and an assessment of markets where regulation and subsidies will likely be needed to sustain societal goals.

METHODS AND SOURCES

This paper synthesizes information and findings from several sources:

- Barakat & Chamberlin client projects focused on customer needs assessment and product testing
- National market segmentation research sponsored by Strategic Marketing Research and Barakat & Chamberlin
- Secondary-source reports on other customer research activities

The research methods used in the sources for this paper are both quantitative and qualitative, consisting primarily of telephone surveys and focus groups. There is limited statistical rigor in much of this research; nonetheless, it is a helpful beginning in charting the obscure and confusing landscape of emerging competitive power markets.

The Strategic Marketing Research/Barakat & Chamberlin Survey

The two firms conducted an independent national survey and market segmentation analysis designed to identify customer segments and market positioning options based on customer buying behavior (Seiferth and Collins, 1995). Brief highlights of the survey methodology include the following:

- **Sampling**—The sample design called for 1,000 residential respondents and 400 commercial/industrial respondents. The residential sample was designed as a national probability sample, and was representative in terms of both geographical and demographic distribution. The commercial/industrial sample was stratified into ten SIC-based sectors designed to capture a typical range of manufacturing, other industrial, commercial and institutional customer types.
- **Completion rates**—Sample bases were purchased from Survey Sampling Inc. (residential) and Dun & Bradstreet (C/I). SSI provided an initial sample base of 10,000, which was adequate to obtain the targeted 1,000

completes. D&B supplied 2,200 records, of which 1,723 were used to obtain the target 400 completes.

- **Analysis**—Cluster and factor analysis techniques were used to develop market segments based on survey responses. Since the residential sample was already a national probability sample, no weighting was needed for the residential results. For the C/I sample, the results were weighted to correspond with national population sizes.
- **Statistical Validity**—Because of the size and structure of the residential sample, high confidence levels were estimated for the results: on the order of $\pm 3\%$ at a 95% confidence level. Because of the smaller cell sizes (as small as 25) and the unique stratification of the C/I sample, comparable confidence levels were not developed.

The paper focuses on the following issues in developing conclusions about the future of energy efficiency:

- The relationship between customer satisfaction and customer loyalty
- Customer segmentation as determined by buying behavior, and by market cycles
- Customer perceptions and buying behavior with respect to price and non-price attributes of electricity
- Customer needs and preferences regarding energy-related services
- Recent pricing/service offerings that foretell potential energy efficiency delivery methods

RESULTS

Summary of Findings

This analysis seeks the answers to two questions:

- Can energy efficiency retain customers in unregulated electricity markets?
- Will unregulated energy efficiency offerings serve the full range of market needs?

The short answers, respectively, are yes and no. The longer answers are somewhat more tempered.

Our research shows that some customers segments will value, and be willing to pay for, energy efficiency services

in unregulated markets. However, these segments comprise only part of the current customer base. Others—customers driven solely by price, those unable to overcome market barriers to efficiency investment such as price, information, and risk factors, and those in which efficiency services cannot be delivered profitably—will not sustain energy efficiency investments in unregulated markets.

We also find that the definition of energy efficiency is likely to broaden in unregulated markets. Under regulated DSM, energy efficiency was defined as the application of efficient designs, equipment, systems or other measures such that total end-use energy consumption decreased, and that current power generation was reduced and future generation capacity avoided or deferred. This definition was appropriate to the IRP/DSM planning framework.

However, in unregulated energy services markets, customers will seek to satisfy a wider range of energy-related service needs, such as: lower total energy costs, reduced maintenance costs, better reliability and power quality, better information on and control of energy use, improved comfort and convenience. Energy efficient solutions can in many cases provide these other benefits; but in many instances these other needs will indirectly “sell” the energy efficient solution. To market energy efficiency successfully in such customer-driven markets, electricity retailers will likely have to bundle their offerings accordingly.

Detailed Findings

Market Segmentation. This section describes the evolution of market segmentation approaches from historical utility methods to recent DSM trends and evolving competition-driven methods, and examines implications of recent segmentation analyses for future marketing of energy efficiency services.

Traditional utility market segmentation formerly focused on customer segments discernable through the billing database. Rate class, size of total usage and peak demand, and level of voltage service were typical variables. SIC-type classifications were added by some companies; others went further into “firmographic” and demographic techniques.

As DSM planning evolved, new segmentation approaches were developed to identify the points in key market cycles where energy efficiency opportunities could be captured most cost-effectively. Typically, this kind of segmentation differentiated between retrofit and lost-opportunity market segments. A segmentation scheme in this approach might appear as follows:

- **Residential lost opportunities**—New construction and natural equipment replacement comprise these market segments.
- **Residential retrofit**—Existing residential customers make up this segment.
- **Commercial lost opportunities**—New construction and equipment replacement defines these segments.
- **Commercial retrofit**—Existing commercial customers define this segment.

This kind of segmentation approach was helpful in designing program features, such as incentive basis and level, and in locating gateways for targeting marketing efforts.

As DSM has come under pressure from competitive forces, programs aimed at retrofit markets typically have been cut back first, on the premise that installing retrofit measures can be deferred without losing time-specific investment opportunities. Lost-opportunity programs, aimed at new construction and replacement markets, have been defended more vigorously, because they typically contain the most cost-effective measures, and because without them significant efficiency opportunities would be lost until the next rotation of the market cycle.

There is evidence that electric retailers will continue to pursue these lost-opportunity markets, and that efficiency will continue to be a selling point in their offerings. Interfuel competition, mostly in the form of natural gas, has become increasingly aggressive in the last decade. Many electric utilities have lost significant market share in such markets as residential heating and commercial food service. In some states, promotional practices laws have limited their ability to compete openly for market share.

Some utilities have mounted counter-campaigns in new construction and replacement markets, and have had to use energy efficiency in electric technologies as a counter-selling point to the low price and efficiency of natural gas technologies. The Good Cents program (begun by Gulf Power Company in the early 1980s and marketed nationally as an independent entity) is an example of bundling energy efficiency with other features to market efficiency in market share-driven offerings. The National Earth Comfort Program, sponsored by the Geothermal Heat Pump Consortium, is an example of an emerging effort to market an efficient electric technology driven largely by utilities’ concern about competing for market share against natural gas.

In unregulated markets, electric retailers will be freer to market aggressively in the new construction and replacement markets. This should lead to increased efforts to offer effi-

cient designs and equipment. In these markets, interfuel competition alone will be a major force for energy efficiency investment.

While traditional and DSM-driven segmentation approaches reveal a lot about customers and markets, they illuminate too little about what they want and how they make buying decisions. This is not to say that DSM-driven market research has not helped utilities develop market intelligence useful for future competitive marketing. Several companies will likely profit from the customer knowledge they have gained from research related to DSM programs. However, in most cases customer research needs to go further to be useful in competitive retail markets.

These attitudinal and behavioral variables are critical in making marketing decisions in a competitive market; marketers in other industries use them commonly. EPRI laid groundwork in this field with CLASSIFY and other attitude and behavior-based methods; the prospect of competition is now causing these techniques to be used more widely. They continue to evolve in the electricity business as utilities seek to emulate the research methods of fully-competitive industries in their own unique markets.

Fortunately, these segmentation approaches are not mutually exclusive. Demographics, firmographics, internal data, and market cycles can identify market targets in various ways. Customer research can then be used to identify segments based on attitudes and buying-behavior attributes. These segmentations can be mapped on other segments as needed to operationalize market targets (e.g. fast-food restaurants are high-profit, high-risk customers; they tend to have a bottom-line buying orientation; and in many service areas they typically are commercial general service customers with national-chain ownership).

The buying-behavior segmentation approach is helpful in defining how to position energy services, including energy efficiency for success in the market. In the research described earlier (Seiferth and Collins, 1995), 1,400 customers were surveyed nationwide to gain insights into their energy services buying behavior. This study identified seven types of C/I “buyers”:

- **The Price Buyer.** This is the stereotypical price-driven buyer that views electricity as a commodity and shops aggressively for the lowest price. They have no supplier loyalty. As mentioned earlier, the assumption is that this buyer-type will dominate the market. Our results indicate otherwise: this segment accounts for only 10% of the C/I market. Moreover, they are for the most part not the big ELCON-type companies, but tend to be small to medium-sized companies in a growth mode,

facing severe competitive pressure which requires them to be unusually price-sensitive.

- **The Bottom-Line Buyer.** This segment is related to the price buyer segment in that these companies want low price for a perceived commodity. However, they look beyond narrow price-per-kWh to a broader, “bottom line” definition of low cost. Reliability, service features, and other factors are included. This segment is larger than the price buyer group, comprising 19% of the market. It consists of larger-sized organizations across a variety of SIC codes. Examples of this buying orientation include the McDonald’s decision in the U.K. to take an offer that was not the lowest price, but included consolidated billing features. In another context, Detroit Edison’s Special Manufacturing Contracts with its large automakers are examples of price tempered with other factors such as reliability and efficiency services.
- **The Value Buyer.** At the other end of the spectrum from the price buyer is the value buyer: while low-cost power marketers want the price buyer, high-cost utilities want the value buyer. These customers see electricity more as a service than as a commodity, and balance price with service and quality considerations. They may be willing to pay a premium for better quality or service. These tend to be medium-sized companies with a high representation of manufacturing sectors for which electricity is not a critical component of production costs. They account for about 18% of the market.
- **The Security Buyer.** These customers are risk-averse; they want the safe choice. They respond to marketing messages such as “Nobody ever got fired for buying IBM”. The Security Buyer seeks recognized, name-brand suppliers and long-term relationships with a limited set of vendors. This segment is about 20% of the market, a surprisingly large share in what is popularly seen as a price-conscious economy. Equally surprising, there is predominance of large corporations in this group; their risk-aversion tends to outweigh their sophistication and theoretical ability to understand and use their market power.
- **The Institutional Buyer.** This group is, as the name shows, composed of larger public and nonprofit organizations. They have elaborate purchasing processes with complex committee-driven decision-making. Price is somewhat important for this group, but they also give serious weight to existing relationships, service issues, local suppliers, and responsiveness to the organization’s complex processes. This is a relatively-small segment, accounting for about 13% of the market.

- **The Principled Buyer.** This group is even less price-sensitive than the value buyer. Their decisions go beyond narrow business criteria. Reputation, historical service relationships, environmental record, community service, and other factors come into play in their buying decisions. Like the value buyer, they see electricity as a service more than as a commodity. This segment is also about 13% of the market.
- **The Convenience Buyer.** Unlike the residential market, where convenience buying is more common, C/I convenience buyers are a small segment, about 8% of the market. They tend to be smaller, entrepreneurially-owned businesses that don't want the hassle of shopping for the best deal. Electricity is not critical to their operations, so if a supplier makes it easy for them, they will give that vendor their business. They may be price-sensitive, and may show little loyalty in switching suppliers, but only if the offering is presented so as to simplify the customer's situation. Professional and service businesses are common in this category.

Table 1 summarizes the relative size of these market segments.

This segmentation indicates that a minority of C/I customers' purchasing decisions are primarily price-driven. Only the Price and Bottom Line segments, accounting for 29% of the market, are clearly commodity/price buyers. These percentages reflect numbers of customers; this survey did not collect information on electricity usage and costs, so the results do not indicate percentage of market by kWh sales or revenue.

This buying-behavior segmentation indicates a substantial potential market for energy-efficiency services. Many of

these segments can arguably be said to be interested in efficiency services. Bottom-line buyers, though they are very price-conscious, also see the value of investments that reduce their net operating costs. Value buyers are the "natural" market for energy efficiency. Institutional buyers, while process-oriented, have historically been shown to be active participants in efficiency programs. Principled buyers, such as Green Lights participants, are also potential efficiency customers. These four segments account for 63% of the C/I market.

Determinants of Customer Loyalty. Our survey also found that 33% of C/I customers said that they would switch electricity suppliers for a 10%-lower price. This percentage corresponds fairly closely with the percentage of the sample represented by Price and Bottom Line buyers. These results find less willingness to switch than other studies, in which proclivities to switch suppliers for a 10% price discount range from 50% to 90% (Opinion Dynamics, 1995; Ellis, 1995). The 90% figure is derived from an Elcon membership survey; since these are self-selected industrial customers advocating competitive choice in power supply, their switching proclivity is likely to be higher than most.

One interesting facet of this retention/loss prediction research is that there is a surprisingly weak link between loyalty and satisfaction. Most utilities are increasingly obsessed with satisfaction; measuring it, increasing it, and sustaining it. Yet satisfaction appears not to be a key to customer retention. One national survey found that more than half of "very satisfied" customers were willing to switch suppliers for a 10% price discount (Opinion Dynamics, 1995). Research on telephone customers who left AT&T found that they were not particularly dissatisfied, and that those who stayed were not particularly satisfied (Line-weber, 1995).

A fundamental weakness of most switching-proclivity research is that it does not get at customers' real decision drivers. It tends to ask hypothetical questions out of the actual buying context. Real buying decisions reflect lots of customer decision factors, market imperfections, and other variables. AT&T, despite its higher prices, retains about 60% of the long-distance market after 10 years of competition. It has been able to market effectively to customers based on their perceived needs for security, reliability, convenience, and other factors; price has been a secondary consideration. In the first year (1994) of second-tier competition in the U.K. (open to customers 100 kW and larger), fewer than 20% of customers switched suppliers (Percival, 1995).

These findings indicate that while many customers are at risk of loss in competitive power markets, price is not always or even most of the time the primary determinant of customer decisions. It follows that non-price factors such as value-

Table 1. Relative Size of Buying-Behavior Segments

Segment	Percentage of Market
Security Buyers	20%
Bottom Line Buyers	19%
Value Buyers	18%
Institutional Buyers	13%
Principled Buyers	13%
Price Buyers	10%
Convenience Buyers	8%

added services, including energy efficiency, will exert significant influence on customer choice.

Market positioning. These results show that there is a lot of room in the market for market positioning strategies that include energy efficiency offerings. Our survey identified the following positioning options:

- **Value-added strategies** are where most companies say they want to be; however, in other industries this is typically the hardest position to establish and hold. This is the Nordstrom position; eventually competitors find ways to come close on the value side and win on the price side.
- **Generic positioning** is based on customer perceptions that electricity companies are mostly the same, that electricity is a commodity and service levels are about the same for all companies. Price is one of the few distinguishing characteristics in this strategy.
- **Security branding** tries to sell service and reputation over price; prices are competitive but not the lowest. Strong, well-advertised brand identity is key, as with AT&T and IBM.
- **Leading-edge strategies** use technology and service innovations to differentiate the supplier; Sony and Microsoft have become dominant in this way. Utilicorp is pursuing this strategy with its national brand identity and its joint venture with Novell.
- **The “Good Guy” Position** emphasizes corporate citizenship, customer relationships, personal service, and community values. It is easier to sustain in smaller and rural markets, and is becomes increasingly difficult in larger, impersonal, urban markets.
- **Principled positioning** may involve establishing the supplier as having strong community ties, environmental ethics, or other differentiating features along these lines.

In the survey, customers expressed their preferences for these different positions when asked what attributes they wanted in an electricity suppliers. The option of “Price Only” was included in this part of the instrument, so the six positions above were compared to a price-only option. Table 2 summarizes the percentages of customers that favored each type of utility position.

It is interesting to note that customers’ directly-expressed preferences do not always match their buying behavior as inferred from the cluster analysis and other techniques used to develop the segmentation data shown in Table 1. For

Table 2. Market Shares for Utility Positions Based on Customer Preferences

Utility Position	Percentage of Customers
Value-Added	25%
Generic	21%
Leading Edge	17%
Good Guy	16%
Price Only	11%
Principled	6%
Security	4%

example, only 4% say they want a security provider, but their other statements about buying behavior indicate that 20% are security-oriented; there may be reluctance to admit that security is an overt criterion. Only 18% are rated as value buyers overall, but 25% say they want value providers; again, it is easier to say you want value than to make the hard decisions on what constitutes value. Some balance appears on the price issue; the price-only and generic preferences account for 33% of the population; in the original segmentation, price and bottom line buyers total 29% of the market.

These positioning preferences, like the earlier segmentation analysis, indicate that energy efficiency offerings would reach a majority of the C/I market. Assuming that the Value-Added, Leading Edge, Good Guy, and Principled positions would include energy efficiency offerings, Table 2 shows that these kinds of retailers would secure 64% of the market—very close to the 62% of customers in segments likely to value efficiency.

Preferences for New Pricing and Service Offerings. The survey research above was not aimed specifically at assessing the market potential for energy efficiency. One of its limitations is that it indicates broad segments and preferences that are likely to embrace energy efficiency, but does not go on to differentiate preferences for efficiency in comparison with other energy-related services.

Other recent Barakat & Chamberlin’s research has also focused on testing customer response to new pricing and energy services offerings. Virtually all of this research is confidential, so the results are necessarily reported here

selectively, and in summarized and qualitative form. Nonetheless, they offer important indications of the directions future C/I energy service offerings are headed.

Many Customers Value Service Above Price. Some segments, especially Convenience buyers and Security buyers, tend to see electricity as a non-critical cost but as a critical service. The large numbers of medium and smaller C/I customers of this type. They would be willing to pay more for certain kinds of premium service. The definition of premium depends to some extent on their business type. Those with sensitive electronics are concerned about power quality; others focus on raw reliability; others are interested in enhanced service features.

These customers also view energy efficiency as a valued customer service. If bundled effectively with reliability, quality, and other customized service features, efficiency will sell well in many market segments.

Establishing Service Relationships Can Keep and Create Customers. Both customer research and recent market developments show that power marketing can begin with service marketing. In our research, customers indicated that the company that can meet their energy-related needs now will be more likely to be their future power supplier. Utilicorp has demonstrated this in their agreement with Service Merchandise. By providing gas service, energy efficiency, power quality, consolidated billing, and other features in the agreement, Utilicorp won the right of first refusal for power sales with this nationwide retail chain.

Many customers are convinced that reliability and service quality will drop when competition opens. The company that offers them these features—be it the current supplier or an outside marketer, will have a relationship with these customers that will be conducive to power sales in the future. The challenge is to identify and reach these second-tier customers cost-effectively in the interim before competition appears. Energy efficiency services, whether offered through regulated DSM programs, or through unregulated energy service businesses, can be the initial relationship-building offerings that ultimately retain and create customers.

Electric Utilities are Already Well-Positioned for Efficiency Offerings. Customer research shows that utilities are perceived as knowledgeable providers in energy efficiency markets. By contrast, they are not viewed as favorably in other areas, such as HVAC maintenance where large, established contractors hold strong positions. It is good business sense for utilities to build on their current strengths in the efficiency field; attempting to enter other, less-familiar energy services businesses entails higher risk.

Some Segments Will Pay for Value-Added Services.

There are mixed messages on this issue. Many customers indicate that they are interested in value-added services from their electricity suppliers. However, these responses typically appear in a research context, and may not predict actual market behavior. The initial results in the U.K. market, for example, indicate that value-added services are not a significant factor overall, and that price dominates the market (Percival, 1995).

However, there are indications that the energy services industry in the U.K. is not well-developed as it is in the U.S. Also, the nationwide scheduling and more homogeneous geographic nature of the U.K. situation created a different situation than is likely to occur in the U.S., with state-based regulation and widely-varying regional markets. So the U.K. may not be an accurate predictor of U.S. market behavior.

Below are summary findings of C/I customer interest in service offerings:

- **Reliability.** Many customers value reliability above price as an attribute of electric service. Some would pay for specific services to increase reliability. However, many expect it as a threshold feature of power service, with the implication that it would be included in pricing. In some specific segments, especially those with significant power distribution facilities, there is interest in maintenance and upgrade services on a fee basis.
- **Power Quality.** Some customers, those with computer operations, sensitive electronics in production, and other systems susceptible to disruption or damage from voltage sags, transient voltages, harmonic distortion, improper grounding or other quality problems, are interested in power quality enhancement. Many larger and engineering-oriented organizations feel that they have addressed these problems on an individual end-use basis, but smaller customers and those with limited technical staff may be good customers for utility-provided services. Several utilities are already offered power protection equipment and other quality services on a for-profit basis.
- **Energy Efficiency.** A large portion of small-to-medium C/I customers express value in receiving energy efficiency services. Most view it as less critical than reliability and quality, but many appreciate the facility capital improvement and cost reduction benefits. These customers seem to view efficiency as a valued customer service, especially when they feel electricity prices are too high. In this context it is viewed as another way to reduce their bottom line; naturally, this view characterized the Bottom Line segment in particular. By the same token, however, in a climate of price reductions through com-

petition, efficiency services become less valuable to this type of buyer; moreover, efficiency investments become harder to justify economically when price expectations are falling.

- **Information.** Our research uncovered a surprisingly high level of interest in information-related products, such as consolidated and summary billing, energy accounting services, enhanced metering and monitoring, technology information and facility diagnostic services. This need is already being served by products such as Southern Electric's Enerlink software, which enhances facility metering data and also imports utility-supplied price signals, rate information, and other services. These kinds of communications technologies are also enabling the proliferation of RTP among smaller C/I customers. Willingness to pay is a key issue here: many customers expect this service to be included as part of the basic service package, and may not be willing to pay extra for them.

What is lacking at this point is quantified research on the market potential for specific service bundles in specific market segments. In this absence of this kind of data it is difficult to say how much energy efficiency investment will result from competitive energy service offerings. While the segmentation analysis above indicates that the majority of the C/I market is likely to be receptive to energy efficiency services, efficiency must also compete with other service offerings.

Recent Market Trends. Signs that efficiency will be part of the marketing mix of the utility of the future are already emerging. Witness the following examples:

- DSM programs are being used to ward off competition. Northeast Utilities and Potomac Electric have been able to use their large C/I programs to target customers vulnerable to gas competition. By using rebates for energy-efficient HVAC equipment, these utilities are reducing customer energy use and retaining valuable load.
- Competitive power contracts include DSM. Detroit Edison's Special Manufacturing Contracts with its auto-maker customers include specified levels of engineering support on site at customer facilities to identify and implement energy efficiency measures.
- Spurred by an amendment to the 1995 Defense appropriation bill that would have allowed defense facilities to shop for power, 10 members of the Edison Electric Institute initiated a collaborative effort with the Defense Department to solve energy-related problems through energy efficiency and other energy service improvement measures.
- Dozens of investor-owned utilities have established unregulated energy services businesses. Their initial offerings have focused largely on energy efficiency, because of the inherent economic attractiveness of these projects, and because of the utility's perceived knowledge in this area. Also, since these businesses ultimately may have no connection to the parent company's generation business, the traditional load-building motivation for marketing is substantially weakened. Customer needs, not asset utilization, will drive these businesses; and customers have been shown to value energy efficiency among their energy service needs.
- Some utilities and energy service companies are pursuing energy service conversions wherein the provider sells the customer energy services rather than energy commodities. Wisconsin Electric, PSI Energy, and others have experimented with "end-use pricing" services. This arrangement typically involves changing out inefficient equipment with efficient systems for chilled water, refrigeration, compressed air, or steam, and charging the customer a set fee for units of service. This creates strong incentives for the provider to invest in efficiency, because each increment of efficiency goes to his bottom line. There is also a strong retention motivation for this arrangement.
- Several electricity retailers are developing national brand identities, such as Power Smart, Energy One, E Prime, and others. Many of these brand identities, such as the Utilicorp/Novell Smart Energy Alliance, are based on energy efficient technology innovations.
- The National Earth Comfort Program has been supported by dozens of electric utilities to support their competitive strategies in residential and commercial residential and commercial HVAC markets. This shows that efficiency remains a powerful force in "lost opportunity" markets.

None of these trends indicates that competitive energy efficiency offerings will sustain efficiency investments at the level realized at the peak of DSM program activity. Competitive energy services businesses, as the private energy services market has shown over the last decade, tend to focus on larger customers, larger projects, and high margins. Other markets are less likely to be served. These trends do show, however, that efficiency will remain a strong force in unregulated markets overall.

Market imperfections will continue to result in shortfalls in energy efficiency investment below what objective economic analyses might justify. Lack of information, risk aversion, institutional barriers, first-cost barriers and the other familiar obstacles to energy efficiency will remain. Falling

electricity prices may depress efficiency investment in buildings as falling motor fuel prices stalled gains in automotive fuel efficiency. Currently-underserved markets—low-income households, multifamily buildings, small businesses, nonprofit organizations, and others will not likely be served by competitive service providers.

Policy initiatives for competition-driven efficiency markets should focus on serving these underserved markets, and on remaining market barriers. A more limited form of IRP and DSM may emerge, based primarily on distribution system planning. While avoided costs will likely be lower, some DSM investments are likely still to be cost-effective. This may preserve a flow of regulated-DSM spending, albeit reduced. Regardless of regulated-DSM spending, “wires fees”, “system benefit charges”, and other names are being forwarded for ongoing mechanisms to divert a portion of power sales revenues to the needs of underserved customers. If supported politically, funded adequately, and administered effectively, these funds can be used to sustain and possibly expand the energy efficiency gains of recent years.

CONCLUSIONS

This brief review of energy efficiency as a force in competitive energy service offerings leads to the following conclusions:

- **Interfuel competition will continue to drive efficiency in lost opportunity markets.** Gas/electric competition has already spurred utilities to emphasize new construction and equipment replacement offerings that depend on efficiency to be competitive. Deregulation will free electricity retailers to be more aggressive in these offerings.
- **Much of the C/I Market is receptive to energy efficiency.** Our buying-behavior segmentation indicates that over 60% of the C/I market falls into segments that value services such as energy efficiency.
- **Efficiency must expand to include other energy services.** Customers want efficiency, but they also want

reliability, quality, and other attributes in their energy services. Efficiency must be bundled effectively with these other features to be saleable.

- **Market forces are already supporting competitive efficiency offerings.** From power sales contracts that include energy efficiency services to national geothermal heat pump initiatives, energy efficiency is being used as a tool for customer retention and market share expansion.
- **Some market segments will continue to need assistance.** Low-income households, multifamily buildings, small businesses, nonprofit organizations, and other underserved markets will not be served in competitive markets and will need various forms of regulatory and programmatic involvement to achieve their efficiency potential.

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