

Harnessing New Market Forces to Transform the Commercial Buildings Market

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ABSTRACT

This paper reports on recent developments in the strategies of the U.S. Environmental Protection Agency (EPA) and the Northwest Energy Efficiency Alliances (Alliance) to promote energy efficiency to the commercial buildings market.¹ This market is broken into target segments by both EPA and the Alliance. The strategies of these organizations rely on building a business case for investments in energy efficiency by emphasizing a range of direct and indirect financial benefits. Both organizations seek to engage key decision-makers and strive to speak in the language of their target markets. This paper begins with a statement of the marketplace challenge and a description of each program. This is followed by a summary of the key factors that have motivated these programs to adopt their respective strategies. Then the strategies of both EPA and the Alliance are described.

Introduction

Companies routinely state they want to be more competitive, profitable and valuable. The reason being that success in these critical business areas ensures market share, funding for operations, and return on investment for owners. Yet, most businesses just as routinely ignore the fact that improved energy performance can help them achieve their business goals. Recognizing the importance of these lost opportunities, the U.S. Environmental Protection Agency's ENERGY STAR partnership (EPA) and the Northwest Energy Efficiency Alliance (the Alliance) are striking out in new directions to overcome this inertia. These programs are focusing on the following: (1) leveraging established market forces affecting businesses, (2) supporting standard business decision-making practices, and (3) expressing the financial benefits of reducing energy consumption in terms relevant to specific business sectors.

Both EPA and the Alliance believe the key is in the use of industry-specific metrics. An approach that presents the benefits of reduced energy consumption in industry-specific terms can make clear what otherwise was not clear. In turn, this can help overcome corporate reluctance to invest in energy efficiency by making companies aware of both the size of the energy savings opportunity and its relevance to their financial goals. Moreover, this approach can influence the demand for energy performance by clearly establishing that investing to reduce energy consumption is a legitimate way to improve business performance.

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Once companies understand the opportunity, they will begin to ask more questions related to current energy performance, the benefits and costs of additional improvements, verification of results, and how they can be recognized for “a job well done.” The Alliance and EPA want to empower companies to answer these questions and take actions that will enhance corporate value.

Background

By partnering with EPA and adopting the ENERGY STAR strategy, organizations demonstrate environmental leadership while benefiting from stronger energy management. ENERGY STAR offers tools and information to help businesses set goals; track and measure energy performance; quantify financial benefits; and gain recognition for results. These offerings are designed so that CFOs and other corporate decision-makers can better serve shareholders by optimizing their organization’s energy performance. The suite of program offerings supports a complete process that can be described as follows:

- Linking an understanding of the nature and magnitude of potential benefits with the critical metrics for particular business sectors (e.g., improvements in asset value, sales, rents),
- Measuring current energy performance on a standardized national rating scale to ascertain comparative performance and allow potential investments to be prioritized,
- Estimating financial costs/benefits of improving energy performance within a specific organization, given its energy intensity and profit margins, expressed in the critical market metrics for that business,
- Implementing a results-oriented energy management system, and
- Demonstrating results by using the same performance rating scale.

This process is similar to any performance-based organizational improvement strategy and lends itself to widespread adoption. The key, as discussed previously, is to successfully link energy performance to business goals and then motivate corporate action.

The Alliance is a non-profit group of electric utilities, state governments, public interest groups and industry representatives in Idaho, Montana, Oregon, and Washington. Through the Alliance, these entities have committed to supporting regional programs that bring affordable energy efficient products and services to the marketplace. In June 2001, the Alliance Board approved a broad-based, multi-year approach to improving the energy efficiency of commercial buildings. This is referred to as the Commercial Buildings Initiative (CBI), whose goals are to:

- Increase the awareness of and build demand for energy efficiency in terms the market understands and values,
- Develop and disseminate information to market decision-makers that is credible, reliable, and useful,
- Build and maintain the capability to deliver efficient products and services in the market place, and
- Standardize energy efficiency as part of the normal practices within the market.

The CBI builds on prior Alliance funded efforts to reach the commercial sector, by adding several new components. These new components include “project responsive” education capabilities, programmatic strategies for specific “Target Markets” and a comprehensive marketing campaign that consistently delivers key messages to specific target market actors. The goal of CBI is to speak to each market in its own language about the benefits of energy efficiency, including both the direct financial benefits of energy efficiency and the benefits of productivity enhancements of advanced buildings systems, such as improved lighting and comfort. Through this strategy, the Alliance hopes to reach key decision-makers and audiences who have not responded to more typical energy efficiency messages using simple payback.

Harnessing New Market Forces

Facility managers are the traditional audience for the promotion of measures to reduce energy costs. However, this audience has two challenges: (1) little exposure to financial decision-makers, and (2) limited ability to frame the direct and indirect financial benefits of energy efficiency. This leads to situations where few senior financial decision-makers are exposed to or learn about the financial value of investing in technologies and practices that reduce energy use. As a result, these decision-makers will not have the necessary information to understand the potential such investments offer to improve their competitiveness and market value.

Table 1 compares three approaches for measuring the benefits of investments in energy efficiency. The starting point for measuring such benefits is usually a quantification of the cost savings. This is useful for describing the magnitude of a particular project’s benefits but it doesn’t speak to the issue of return on investment or the potential to create corporate value at the organization level.

Table 1. Comparing Approaches for Describing the Financial Benefits of Improved Corporate Energy Management

Types of Approach	Specific Metrics	Typical Use	Usefulness of the Approach
Cost reductions	Dollar savings	To quantify the benefits of energy activities	Describes the magnitude of energy cost savings relative to total operating costs
Project-level returns on investment	Payback period, Internal rate of return, Net present value	To make “go/no-go” investment decisions	Describes the return on investment for individual projects
Corporate financial value	Sector-specific profitability metrics, Earnings-per-share, Shareholder value, Indirect or intangible benefits (e.g., productivity)	To measure the contribution to overall corporate financial performance	Describes the potential financial value of improved energy management in terms familiar to senior managers

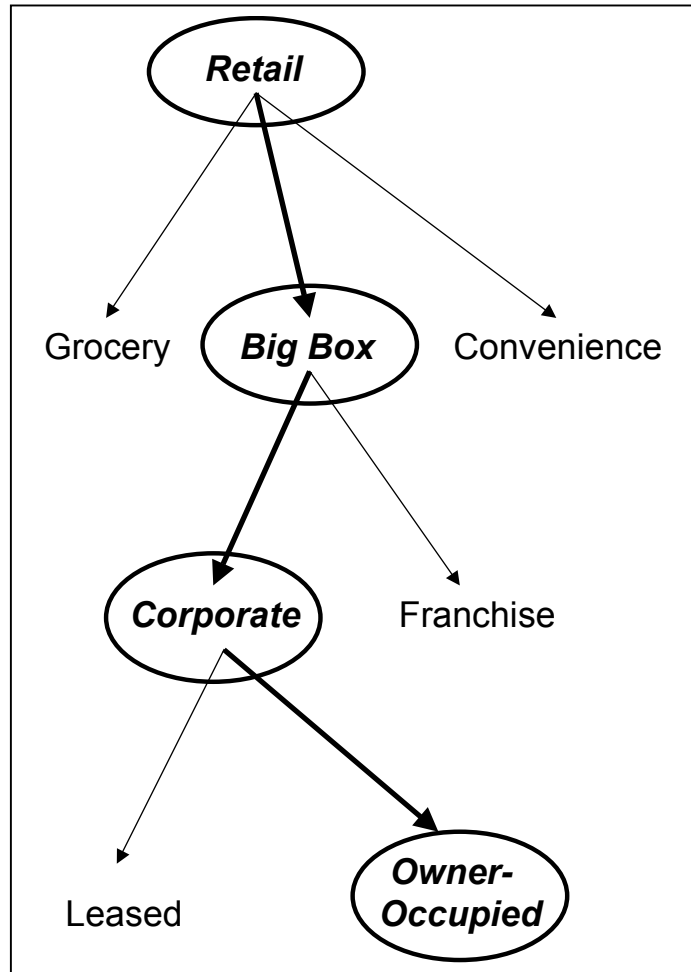
As a next step, financial returns are still most often measured with traditional financial criteria, such as internal rate of return and payback period. These project-level assessments can be effective and informative but cannot provide a full understanding of how improved energy management impacts an organization’s overall financial performance.

Consequently, energy efficiency projects cannot compete with “core business” initiatives – i.e., the types of initiatives on which senior financial decision-makers typically focus during the competition for investment capital. The ultimate goal, therefore, needs to be reaching senior financial decision-makers with an analysis of financial value that allows investments to manage energy consumption to gain equal footing with competing business development projects.

The analyses of financial value can be further expanded to identify and attempt to quantify less tangible benefits that accrue to energy performance investments. These benefits may include the reduced risk associated with equipment malfunction; better lighting of offices and sales floors; better amenity/technology packages associated with property leasing or sales; or controls that improve comfort. Such benefits can add to the bottom line in ways that are not readily apparent or able to be quantified. Nonetheless, it is important to understand how to take advantage of these potential motivators and tailor messages for each business sector. This is best accomplished through a coordinated and carefully implemented market segmentation strategy.

Both the ENERGY STAR partnership and the Alliance are pursuing such deliberate market segmentation strategies. And while their approaches are distinct, their target sector priorities are similar. Each program’s desire to segment the market results directly from their desire to influence business decision-making. These programs recognize that to be successful in marketing and realizing energy savings, they must pay close attention to those distinct business realities. In other words, market segmentation provides programmatic focus (see Figure 1). Moreover, a market segmentation approach allows financial and other business case messages and information to be customized for particular sectors. Doing this makes the messages both more relevant and more powerful.

Figure 1. Market Segmentation Provides Programmatic Focus



EPA STRATEGY: New Directions

The single most influential factor that set in motion EPA's efforts to segment the commercial buildings market by business sectors was the program's strategic shift away from a technology-driven approach to a management-driven approach. This shift towards a management focus began in the mid-1990's. In making this shift, EPA realized that it needed a firm understanding of the central management concerns of its key business sectors in order to be effective in influencing management decisions. This change in programmatic direction led EPA to its current focus on financial value and sector-specific business metrics.

In terms of identifying priority sectors, the point of departure for EPA's market segmentation strategy has always been an analysis of the potential for energy savings (i.e., carbon emission reductions) throughout the U.S. commercial building stock. This analysis has guided EPA to target the owners and occupants of particular building types, such as offices and retail space. With this analysis in hand, EPA considers a range of additional factors when deciding on which sectors to target. The EPA process considers the availability of data to support the development of a national performance rating – i.e., the EPA 0-100 scale, existence of a compelling financial message, and ownership structure. EPA has used this process to identify its current target markets: commercial real estate (CRE) (i.e., income producing properties), corporate sectors (e.g., financial services, insurance, and telecommunications), retail, grocery, hospitality (i.e., hotels and motels), health care, education and government.

The creation of powerful business case messages for these EPA target sectors requires an understanding of the financial and sector-specific drivers. It goes without saying that corporate Chief Financial Officers (CFOs) generally care about the same things: opportunity costs, earnings-per-share (EPS), and stock price. Yet beyond these basic common concerns, each industry has distinct profitability metrics that drive decision-making. Table 2 presents a examples of the profitability metrics that EPA identified for three of its more important market sectors.

Table 2. Examples of Sector-Specific Profitability Metrics

Sectors	Profitability Metrics
CRE	Net Operating Income and its relationship to asset value
Retail	Sales and profits per square foot
Hospitality	Revenue per average room and its impact on profits

Once the key profitability metrics are identified they can be used to shape sector-specific value propositions. For example, in the hospitality sector EPA developed the following value proposition:

A 10% reduction in energy costs is equivalent to:

- Increasing occupancy points by 1.04
- Increasing the average daily room (ADR) rate by \$1.35
- Increasing ADR by 1.6%

EPA is modeling these value propositions on the successful approach it used to structure its program offering for the commercial real estate (CRE) sector. For income-producing, CRE properties, EPA was able to determine that the asset value of a building was increased by \$3 for every \$1 invested to reduce energy consumption. This simple value proposition resonated with the industry and resulted in widespread participation in the Energy Star program (see text box).

The current EPA approach is to use sector-specific value propositions in tandem with financial value messages stated in terms of the ubiquitous metrics of net income, earnings per share and shareholder value. EPA believes that its latest initiative to calculate the value of improved energy performance in these bottom line terms holds great promise for motivating much deeper investments to save energy in the commercial buildings market.

Sector Experiences

The commercial real estate (CRE) marketplace was a challenge to penetrate because owners of leased space typically believed they had little incentive to reduce their tenants' utility costs.

EPA's strategy was to craft a formal ENERGY STAR offering specific to the CRE sector, after assessing the sector's financial drivers and analytic techniques. The result, QuikScope, emphasized asset value and its direct relation to net operating income. It specifically links energy cost savings to asset value increases in order to change how owners and managers view the benefits of efficiency projects.

This sector actively embraced the tool and its concept. To date, EPA has enrolled almost 3 billion square feet of the CRE sector in its program, which is truly an endorsement of an industry-accepted, real estate appraisal approach to valuing energy cost savings.

Quantifying the Financial Value of Improved Energy Performance

To quantify the potential impact on corporate earnings, EPA chose a straightforward and transparent framework. This approach takes the new "revenue stream" that a company realizes from energy cost reductions, and using a simple Income Statement framework, quantifies the potential contribution to a firm's Net Income. As a final step, a market value is placed on the incremental net income using a firm's prevailing price-to-earnings ratio, which provides a measure of increased shareholder value.

The tool that ENERGY STAR developed to implement this methodology is called the "financial value calculator" tool (FVC).² Using this tool, EPA estimates that an earnings impact of between \$0.02 - \$0.05 per share (or 1.5 to 5 percent) is within the range of what commercial firms could realize through an aggressive, corporate-wide commitment to improve energy performance. Furthermore, when a market value is placed on these additional earnings, results indicate that between \$2.00 - \$7.00 of shareholder value is returned for each \$1.00 invested in energy efficiency.

Table 3 extends these findings by incorporating the impacts of investing in energy efficiency on annual EPS growth rate targets. Specifically, the table presents a summary of the corporate-level financial benefits associated with investing in energy efficiency for four different industry sectors. These benefits were estimated using a blend of corporate financial data from Hoover's Online service and data collected by EPA. The result are four

² The FVC tool can be downloaded at the ENERGY STAR website (www.energystar.gov).

representative “companies” whose financial numbers indicate positive returns associated with investing in energy efficiency (see Table 3 below).

Table 3. Comparison of Sector-Specific Financial Results*

	Grocery	Hospitality	Department Stores	Insurance
Baseline EPS	\$0.97	\$0.80	\$1.16	\$1.50
Change to EPS (Cents)	4.7	2.7	2.2	2.1
Change to EPS Relative to Baseline EPS (%)	4.8	3.3	1.9	1.4
Change to Market Value	\$103,840,000	\$72,817,800	\$195,408,000	\$24,573,500
Change in Shareholder Value Per \$1 Invested	\$3.25	\$2.14	\$6.98	\$2.34
Annual EPS Growth Targets (%)	10	15	12	10
Potential Contribution of Energy Efficiency to Annual EPS Growth Targets (%)	48	23	19	14

* Analysis conducted using the FVC and representative sector data. Assumes corporate-wide energy savings of 20 percent through investments with internal rates of return ranging from 30 to 40 percent.

Source: Hoover’s Online and EPA data. 2002

To put the magnitude of these results in a different context, the percentage changes can be compared to typical EPS growth rates. This is useful because expected year-to-year growth in earnings is also an important factor influencing how a company is rewarded or penalized by Wall Street and investors in general. For example, illustrative results in Table 3 show that investing in energy efficiency could contribute approximately 15 to 50 percent of annual EPS growth targets.

ENERGY STAR created the FVC tool to allow partners to quickly quantify and communicate EPS and shareholder value results. This information is relevant across sectors and complements the presentation of other sector-specific messages.

Communicating the Financial Value of Improved Energy Performance

EPA knows that corporate decision-makers already have an inordinate number of demands on their time. Therefore, the FVC tool was designed to help users to easily quantify and communicate the value of improved energy performance. ENERGY STAR designed the tool to minimize the demands placed on users. Specifically, users need little or no training, can find its components readily accessible, and are not burdened by extensive data input needs. Furthermore, the tool provides for reasonable, yet flexible, scenario analyses that are tied both to standard financial and shareholder value information. The shareholder value information is specific enough to highlight how investing in energy efficiency can meet, or even exceed, existing corporate investment standards.

The development of the financial value calculator was guided by several key principles. The initial release of the tool was designed for publicly-held companies to quickly and easily “see” how their entire company could benefit from investing in energy

efficiency, rather than just looking at individual facility or project returns.³ Companies would choose their investment and savings scenario and learn how their choices affect their bottom line, EPS, and total market value. When developing the tool, ENERGY STAR considered how it would be used and envisioned instances when users would want to test a variety of investment options, assess past investment returns, or develop analyses to support a comprehensive, long-term plan to invest in energy efficiency.

The FVC tool was developed to provide users with the information and capabilities they need to bridge potential communication issues between facility managers and corporate executives. Ideally, each will begin to understand the other's perspective and how energy performance investments are linked to corporate shareholder value. Finally, ENERGY STAR designed the tool so that users could print results and include use them as an attachment to a report, to enhance meeting materials, or even to serve as background material for corporate publications.

ENERGY STAR intends to present the tool to partners as an early step in the process of turning corporate commitment to environmental and fiscal responsibility into a specific budgetary commitment. This step, which ensures high-level buy-in, precedes the prioritization of energy performance investment opportunities using the ENERGY STAR benchmark at the building level. This process for getting started is simple, involves creative tools that have not existed in the marketplace, and allows for the overlay of sector-specific messages that enhance motivation and buy-in.

ALLIANCE STRATEGY: New Directions

To launch the CBI, the Alliance initiated market research that involved segmenting potential target markets first by type of ownership, and then by type of business. The three basic ownership categories were CRE, chains and franchises, and institutional. Each of these broader classes was further defined. In the real estate market, the next divisions on business type were based on ownership structure (e.g., privately held and leased, real estate investment trusts, owner occupied). For chains and franchises, the next divisions were by business type, such as lodging and grocery stores; and the institutional market included organizations such as schools, hospitals, and state government.

Alliance's Market Segmentation Approach

The Alliance relied on secondary research and personal interviews with experts and utility staff to develop/compile a set of information for each target market. This information was used to: (1) rate the potential opportunity to influence this market from a market transformation perspective, and (2) develop a better understanding of the market and its key influencers, in order to inform program design. The rating criteria were:

- Market Interest or Readiness (internal motivating factors, such as awareness or previous actions regarding efficiency)
- Market Leverage (concentration of and/or access to decision making authority)
- Market Packaging (ability to fashion an effective marketing message/strategy)

³ Privately-held companies and public or non-profit entities can still use the tool to develop intuition about the financial benefits of energy efficiency – i.e., net present value, internal rate of return, and payback period.

- Market Size (energy savings potential)
- Spillover Potential (impact on other markets)
- Geographic Spread (extent the market is well distributed across the Northwest)
- Current Efforts (presence and strength of utility, ENERGY STAR or other programs to support the Alliance efforts)

Based on this research, the Alliance has made some initial decisions on where to concentrate Target Market efforts. The Alliance is currently in the process of soliciting further information about these potential markets, with the intent of developing a detailed program strategy that would be presented to the Alliance Board for a funding decision.

Development of the Alliance Strategy

While it is still in early stages of development, the Alliance has progressed the furthest in thinking about strategies for the CRE and grocery target markets. In the CRE sector, research to date has focused on who owns real estate, the market actors involved in serving the owner's interests, and their business practices. This research suggests that consolidation and vertical integration of CRE companies creates leverage points and business opportunities for energy efficiency that were not there in the past. Instead of dealing with a fragmented market, vertically integrated companies own real estate, manage assets, employ property managers, and provide or contract for operations and maintenance services. This information is critical for identifying the market barriers associated with promoting efficient energy use, as well as crafting market transformation strategies.

In addition to narrowing the CRE target market to vertically integrated firms, Alliance research has preliminarily addressed other important marketing considerations such as messages, positioning, strategies, and tools.

Key messages that will appeal to the CRE audience directly relate to the impact of energy efficiency on net operating income. Even initial research points out that productivity benefits are important to this group only as long as they can be proven.

In any marketing plan, positioning can be defined as how a program, product, or service can be distinguished from its competitors. Although the Alliance's CBI program has no direct competitors, the program must compete for the time and attention of CRE professionals who are extremely busy individuals. Therefore, the program must provide these business audiences with pragmatic and comprehensive information and resources that are sympathetic to time constraints and business needs.

The Alliance strategy includes developing partnerships with CRE firms interested or engaged with green or energy efficient buildings. Project specific assistance on energy efficiency in their buildings can be provided through a regional advisor service, training and education programs, research assistance, and lighting laboratories. Marketing and public relations focus on placing success stories in local/regional media. All of this will be supported with marketing materials and tools prepared that explain the benefits of energy efficient buildings in the language of the CRE market.

These marketing materials and other tools will help the CRE market to allocate costs and benefits of energy efficiency investments. ENERGY STAR tools, like QuikScope and the FVC tool, will help demonstrate these strategies and financial returns associated with energy efficiency investments. Along the way, the Alliance will gain valuable experience with the

market and may be in a position to develop a business model that incorporates energy efficiency in standard operations.

In addition to the CRE market, the Alliance's preliminary research indicates that another high priority target market should be grocery stores. This can be further divided into national chains and regional/independent chains. For nearly all market actors within the grocery market, investment decision factors include marketing and presentation concerns, increased sales, and equipment reliability. Thin profit margins, intense competition, and corporate mergers are prevalent in the grocery market.

Consistent with the strategy of reaching key financial decision-makers on their own terms, the Alliance must work to develop strategies that reach centralized management and design team members along with regional or district managers within national grocery chains. The Alliance is investigating the typical business practice of developing a prototype store, on which all others are based over the next year or more, as a leveraging opportunity. Increased use of daylighting is one approach the Alliance is strongly considering for new prototype store development. Daylighting offers the opportunity to present a variety of messages that are compelling to the key market actors in national grocery store chains. First, illumination levels associated with daylight deliver a high quality product appearance. Additionally, research by the Heshong Mahone Group demonstrates a statistically compelling connection between daylighting and retail sales (Heshong 1999). Therefore, messages of non-energy benefits that appeal to the decision-makers' core business function and values will be delivered to national grocery chain market actors along with the message of direct financial benefits.

Alliance strategies in the regional grocery chain target market will be distinct from the national chain strategy. Market research has identified regional grocery wholesalers as being a critical source of information for these regional chains and independent grocers. Thus, the Alliance may suggest an approach that targets regional wholesalers and co-ops. In this regional grocery market, Alliance efforts might focus on existing store retrofits/upgrades and financing options that justify the investment in energy efficiency (Quantum Consulting 2000). Alliance staff expects to submit a preliminary strategy for Board funding that suggests development of a package of energy efficiency services that wholesalers can offer to their members.

Conclusion

In their most recent program initiatives, both EPA and the Alliance have stressed the importance of expressing the financial benefits of energy performance in terms relevant to specific businesses. There are three key similarities in their strategies, which are the following:

- Segment the marketplace. Both organizations engaged in analyses to segment the market into target sectors. Ultimately, their distinct approaches resulted in similar priority sectors – e.g., CRE and grocery.
- Express the financial benefits of energy performance in sector-relevant terms. The importance of this concept cannot be over-emphasized. Marketing tools and messages must appeal to a particular market segment's core business values and

- financial tools must support the financial decision-makers interest in metrics that apply to his or her business.
- Target financial decision-makers. Strategies must recognize this is the audience who has the authority to endorse and then initiate energy efficiency investments. A limitation of past energy efficiency programs was that they stressed simple payback and internal rate of return. Facility or energy managers were often unable to translate their project's benefits into terms that financial decision-makers more commonly use.

Finally, EPA and the Alliance both recognize that direct financial messages can be supported and augmented by consideration of the indirect productivity gains that can affect businesses' competitive position and their ultimate profitability.

References

- Heschong Mahone Group. 1999. *Skylighting and Retail Sales: An Investigation into the Relationship Between Daylighting and Human Performance*. Pacific Gas & Electric.
- Quantum Consulting, Inc. 2000. *Market Assessment of the Independently Owned Retail Food Sector in the Pacific Northwest*. Northwest Energy Efficiency Alliance.

