ENERGY MANAGEMENT & INVESTOR RETURNS:

THE RETAIL MERCHANDISING SECTOR

Energy Management Leaders Achieve Superior Stock Market Returns in the Retail Merchandising Sector

February 2003

Summary Report*

Innovest Strategic Value Advisors

* This Summary Report does not provide company specific ratings and profiles. This information is published in the full report, which is available from Innovest at 1-646-237-0220 or fdixon@innovestgroup.com.

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New York Office: 4 Times Square, 3rd Floor, New York, NY 10036 (212) 421-2000 Fax (212) 421-9663

Toronto Office: 225 East Beaver Creek Road Suite 300, Richmond Hill Ontario L4B 3P4 CANADA (905) 707-0876 Fax (905) 707-9084 .

London Office: 1 Cornhill, London EC3V 3ND, United Kingdom +44 20 7743 6162 Fax +44 20 7743 6163.

Paris Office: 1 Rue des Reservoirs, B605, 94340 Joinville-le-Pont, France +33 01 48 86 03 69

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1.0 EXECUTIVE SUMMARY

Innovest Strategic Value Advisors, a financial research firm based in New York, London, Paris and Toronto, analyzed relative energy efficiency and management performance in the retail merchandising sector[1]. The study found that energy management leaders achieved superior stock market and financial performance over the past five years[2].

Company-specific energy consumption data is usually not available in this sector (in general, only the most proactive companies disclose data in an effort to enhance stakeholder relations). To analyze performance in the absence of data, Innovest selected twelve of the largest retail merchandising companies (representing over 70% of the market capitalization of the Dow Jones Broad Line Retail index). It then analyzed the firms using a comprehensive rating model comprised of over 30 quantitative and qualitative metrics shown in Appendix A.

Figure 1 shows the scores for the twelve companies analyzed in this report. (This summary report only identifies the two top rated companies. The full report, which includes information on all twelve firms, is available from Innovest at 1-646-237-0220 or fdixon@innovestgroup.com.)

Ticker	Company	Rank	Rating	Score
LOW	Lowe's Companies Inc	1	AAA	1632
COST	Costco Wholesale Corporation	2	AAA	1458
XX	XXXX	3	AA	1321
XX	XXXX	4	AA	1292
XX	XXXX.	5	A	1163
XX	XXXX	6	BBB	978
XX	XXXX	7	BBB	893
XX	XXXX	8	BB	671
XX	XXXX	9	B	586
XX	XXXX	10	CCC	340
XX	XXXX	11	CCC	296
XX	XXXX	12	CCC	259

Figure 1. Retail Merchandising Companies Examined in This Study

Figure 2 shows that the six companies with above average energy management performance, taken as a group, outperformed the below average companies over the past five years by over 7100 basis points (71 percentage points).

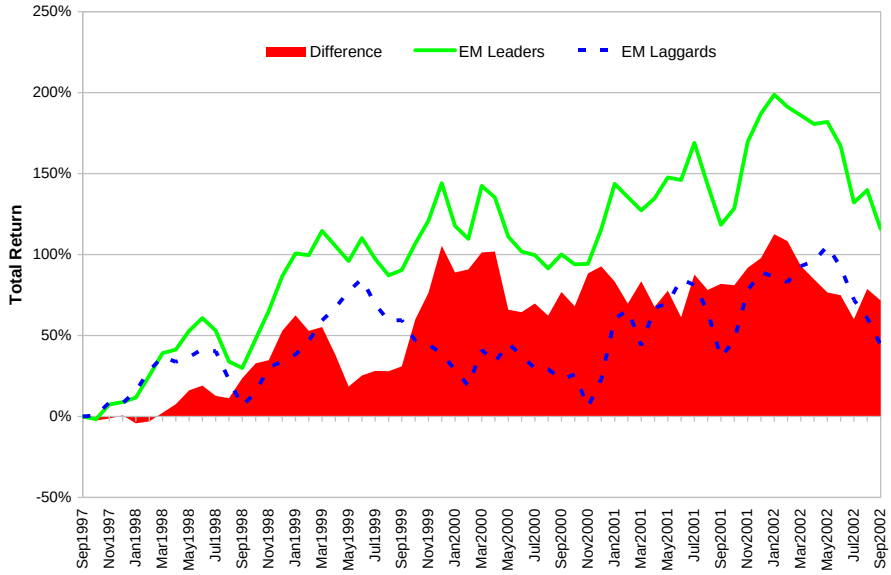


Figure 2. Stock Market Performance: Energy Management Leaders vs. Laggards

Figure 3 shows that the energy management leaders also outperformed the laggards on price-to-earnings (13%), price-to-book value (26%), return-on-assets (49%), return-on-equity (52%), return-on-invested capital (16%) and Tobin's Q, a measure of intangible value (8%).

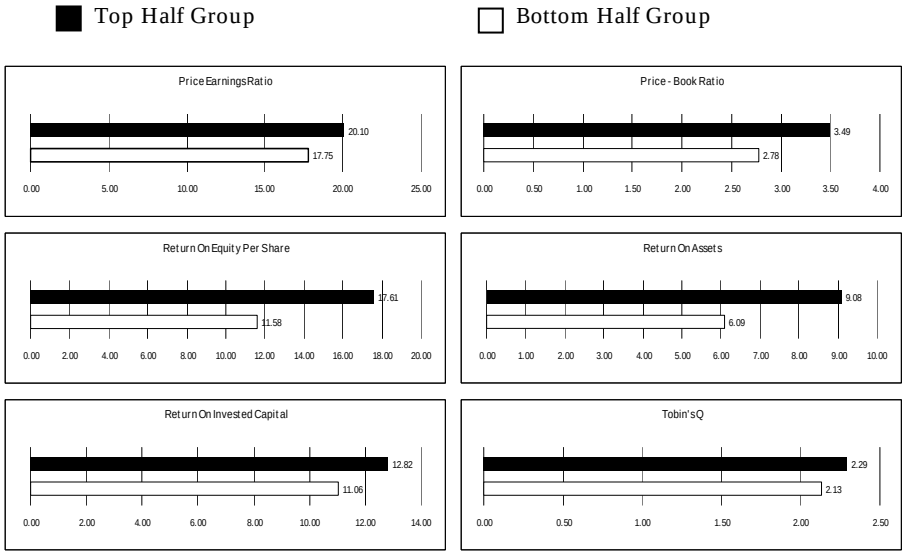


Figure 3. Financial Performance: Energy Management Leaders vs. Laggards

1.1 ENERGY STAR PARTNERS: STOCK MARKET PERFORMANCE

To further assess possible links between energy management and stock market performance, a less complex analysis was performed. In this analysis, retail merchandising companies actively involved in the U.S. Environmental Protection Agency's (EPA) ENERGY STAR® program were compared to the Dow Jones Broad Line Retail index. ENERGY STAR is a government program that is widely considered to be successful in promoting improvements in national energy management. The program works with industry to develop energy efficiency standards for various residential and commercial products as well as buildings. It awards the ENERGY STAR label to those products and buildings that meet these standards. ENERGY STAR also encourages strategic energy management practices for commercial and industrial partners. Appendix B provides more information on the ENERGY STAR program.

Figure 4 shows that, over the past five years, retail merchandising companies actively involved in ENERGY STAR outperformed the Broad Line Retail index by over 6000 basis points (60 percentage points). Appendix C shows the companies included in the Dow Jones Broad Line Retail Index. This summary report does not identify firms considered to be active in ENERGY STAR. These are included in the full report which is available from Innovest.

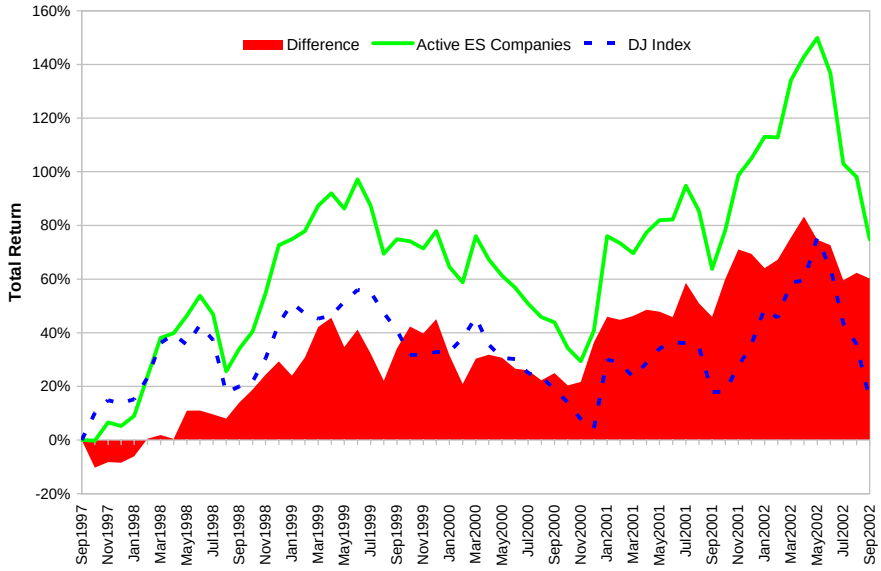


Figure 4. Retail ENERGY STAR Active Companies vs. Broad Line Retail Index

Accurately assessing corporate energy management performance is a complex task, probably outside the expertise of most financial analysts. Innovest's research in many sectors indicates that companies significantly involved in ENERGY STAR are usually leaders in overall energy management. Therefore, assessing the level of involvement in the ENERGY STAR program provides an easy way for analysts to estimate relative energy management performance. In Innovest's comprehensive assessment of energy management described above, ten of the twelve companies analyzed were involved in the ENERGY STAR program. The companies rated most highly on energy management were consistently the most active in the ENERGY STAR program.

Since many factors influence financial performance, it is likely that energy management is not the only driver of financial results in these studies. Nevertheless, given the large differentials found, the proxy value for management quality, and the significant financial benefits accruing from improved energy performance, it is likely that enhanced energy management does increase investor returns.

Management quality is a primary determinate of stock market performance. Yet management quality is difficult to quantify since it is subjective. Innovest has found in nearly every sector that environmental leaders outperform in the stock market, mainly because environmental performance is a strong proxy for management quality. (Innovest's primary business is conducting comprehensive, financially-oriented assessments of corporate environmental and social performance. Financial institutions such as ABN-AMRO, Dreyfus, ING, Rockefeller & Co, Schroders, State Street Global Advisors, T. Rowe Price and many others, use Innovest research to develop investment products intended to outperform mainstream funds—see www.innovestgroup.com for more information.)

The environment is one of the most complex challenges facing management, in part because there are high levels of uncertainty as well as many stakeholders and complex issues to address. It is implied that companies dealing well with this high level of complexity have the sophistication to succeed in other parts of the business and, thereby, earn superior returns. Energy management is an important aspect of environmental performance which also poses a complex challenge to management. As a result, it is likely that energy management performance is also a strong indicator of management quality and stock market potential.

1.2 THE BUSINESS CASE FOR ENERGY EFFICIENCY

The correlations found in the above study are partly explained not only by the proxy value for management quality, but also by the financial and competitive benefits that result from improved energy efficiency. In the retail merchandising sector, companies reported achieving the following benefits:

- **Reduced Operating Costs.** As a major cost area, several firms covered in this report have increased profitability by proactively reducing energy costs. In the retail sector, utility expense is the third largest component of operating costs for un-leased retail space and the fourth largest component of operating costs for leased retail space[3]. In spite of aggressive energy management by many firms, significant potential exists in this sector to enhance profitability by further improving energy efficiency. The body of this report, along with the company profiles in Appendix E, details how companies are improving energy efficiency.

- **Increased Productivity and Sales.** Improving energy management usually enhances lighting and HVAC (heating, ventilating and air conditioning) performance. Optimally operating HVAC systems can contribute to reduced lost work time related to illness resulting from inefficient heating or cooling. Efficiency improvements may also enhance sales. For example, installing skylights can significantly reduce energy costs while promoting higher sales. In a study conducted on behalf of the California Board for Energy Efficiency for the third party program administered by PG&E, skylights were found to be positively and significantly correlated to higher sales[4]. All other things being equal, an average non-skylit store would likely have 40% higher sales with the addition of skylights; after the number of hours open per week, the presence of skylights was the best predictor of the sales per store of all variables considered in the study.

- **Reduced Regulatory Exposure.** Electricity generation produces about two thirds of the sulfur dioxide emissions and one third of the nitrogen oxides and carbon dioxide emissions in the U.S. Under existing regulations, U.S. utilities will be required to reduce sulfur dioxide and nitrogen oxides emissions by as much as 70% over the next ten years. Regulators in Europe are pressuring commercial users to reduce emissions. With U.S. utilities facing growing pressure to reduce emissions, it is likely that commercial firms will face similar pressures over time, as are companies in Europe.

Energy management leaders will be less vulnerable to these increasing regulations.

- **Reduced Vulnerability to Energy Price Fluctuations.** Deregulation, Middle East turmoil, concerns about terrorism, and other factors are increasing volatility in the energy markets. California retail companies saw energy price increases of up to 100% in 2001. Given tight margins, this had significant negative impacts on profitability in many cases. To protect earnings, companies such as Costco aggressively developed emergency energy management plans. Ongoing improvements in energy efficiency will minimize exposure to volatile energy markets.

- **Enhanced Public Image.** As environmental problems such as global warming continue to receive greater media attention, consumers and the public in general are focusing more on corporate environmental performance. In the face of this trend, companies consistently report that improving performance significantly enhances their reputation as a responsible corporate citizen. Image enhancement is one of the most common benefits reported by ENERGY STAR participants. Most companies analyzed in this report are expanding operations. Maintaining an image as a responsible corporate citizen, in part by improving energy efficiency, minimizes community opposition to opening new stores. Once stores are opened, a positive environmental image contributes to increased sales and enhanced community relations.

- **Enhanced Reputation within the Financial Community as a Well Managed Company.** As noted previously, environmental performance consistently correlates with financial performance. This occurs mainly because the environment represents a complex challenge to management and is therefore a good indicator of management quality, a primary determinate of financial performance and a key metric for the financial community. As indicated by this study, energy management, a key element of environmental performance, is also likely to be a strong indicator of superior management and stock market potential.

- **Enhanced Appeal to Socially Responsible Investors.** SRI funds have grown rapidly in North America, Europe and Japan over the past five years. The Social Investment Forum estimates that over $2 trillion of invested U.S. assets are invested through some type of environmental or social

screen[5]. Many of the largest financial institutions in the world have introduced SRI funds based on research provided by Innovest and other organizations. When screening for environmental issues, SRI researchers usually consider energy efficiency to be a key element of environmental performance, partly because it has a significant impact on global warming. As the growing SRI market increasingly favors companies with superior energy performance, upward pressure will be placed on the returns of energy management leaders, increasing the likelihood that they will earn market premiums.

- **Market Opportunity for Energy Efficient Product Sales.** According to the Business Communications Co., Inc. study Energy Conservation Review[6], sales of high efficiency products in the U.S. were $28.1 billion in 1999 and estimated to grow at an average annual rate of 8.2% for the successive five-year period, reaching $41.7 billion in 2004. The largest segment of energy efficient products is residential products - projected to be $17 billion in 2004 - followed by commercial appliances, water heaters, lighting and HVAC systems. This consumer trend presents significant opportunity for retailers to establish themselves as the retailer with the widest selection, most knowledge of the products and most rebates offered; thus gaining significant market share.

The preceding factors summarize the various ways in which superior energy management can add value for shareholders. Beyond this, with intangible value comprising a growing percentage of market capitalization, investors are seeking greater clarity on the drivers of intangible value. Energy management, as an indicator of management quality and reputation, can be used as one indicator of superior intangible value and stock market potential. Innovest's analysis found wide variations in corporate energy management performance in the retail merchandising sector. These differentials have strong implications for investors. Given the financial benefits resulting from improved energy performance found in this study, it is likely that incorporating energy management analysis into traditional financial analysis will help investors uncover hidden value and increase investment returns.

The following sections describe overall energy trends as well as how companies are enhancing financial returns by improving energy management in the retail merchandising sector. The company profiles shown in Appendix E summarize the energy strategy, management initiatives, profit opportunities and risk factors for each firm.

2.0 SECTOR ENERGY ISSUES

2.1 THE FINANCIAL IMPACT OF ENERGY USE

Retail and service buildings are second only to office buildings in energy spending at $14 billion per year. Energy expenditures in these buildings account for 20% of all commercial energy expenditures and use a total of 973 trillion Btu of combined electricity, natural gas, fuel oil, and district steam or hot water[7].

The financial impact of energy use on a retail merchandising company can be quite significant in some cases, as illustrated by the California energy crisis. As prices for natural gas rose dramatically, the cost of generating electricity rose accordingly. Many companies, such as Costco, realized significant financial value from improving energy management. They have since extended many practices developed in California to other regions.

2.1.1 The U.S. Energy Market

Electricity markets in the United States vary widely in terms of their level of regulation and prices for commercial customers. Many of the most desirable markets for retail stores are located in states with above average energy prices (See Figure 5). Therefore, to be more competitive in the largest markets, retail merchandising companies often work aggressively to improve energy efficiency. Electricity prices are set by each state. Many states have moved towards deregulation of their electricity markets with the goal of reducing energy costs. After the California debacle, several states are slowing deregulation plans.

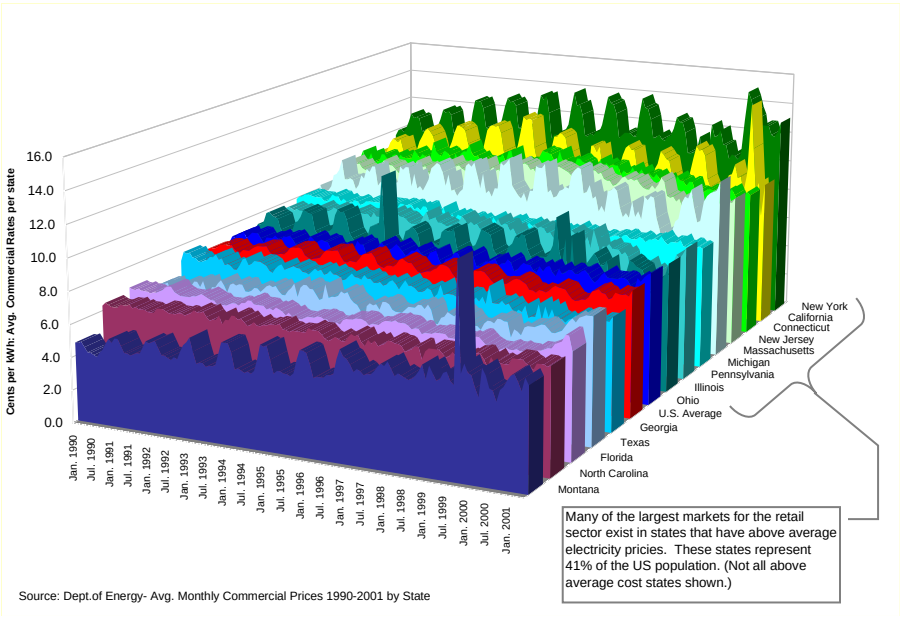


Figure 5. Average Monthly Commercial Electric Rates (1990-2001) by State

Figure 6 shows that some major markets, such as New York, have had rising electricity prices over the last decade. As prices rise, energy management investments become more attractive since payback periods are reduced.

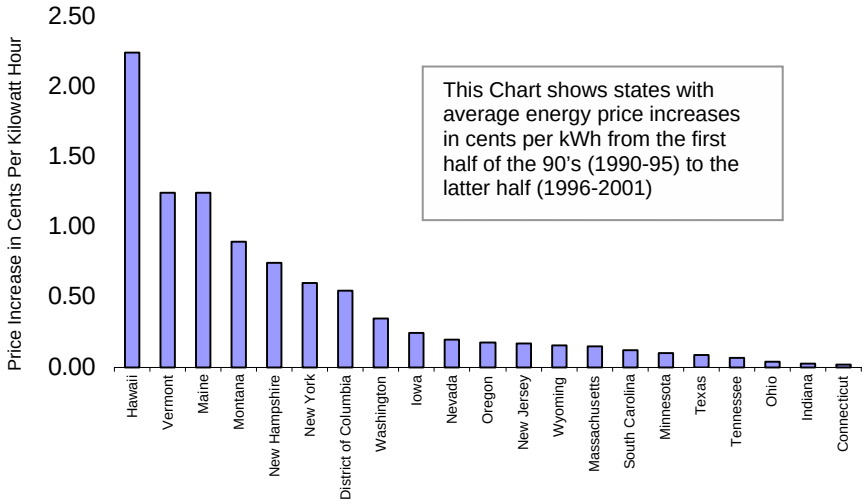


Figure 6. Changes in Electricity Rates '90-'95 vs. '96-'01

2.2 RISK FACTORS

2.2.1 Uncertainty & Volatility

Many firms aggressively pursue energy management to reduce exposure to price volatility. While energy forecasts often show stable prices, the experience of those in California, New York and many other states has been otherwise. Figure 6 above shows states with rising prices over the past decade. As prices rise, the benefits of efficiency rise with them. As Figure 5 illustrates, electricity markets can be quite volatile. Retail merchandising firms that prepare in advance for energy price fluctuations by increasing efficiency should reap benefits when costs rise unexpectedly.

Energy management can help mitigate costs from energy price increases, for example, by coordinating responses at all locations so that short-term demand is reduced. New technologies such as fuel cells, natural gas distributed generating units, photovoltaics, and wind turbines may help retail merchandising companies further reduce peak demand. While companies in this sector are not currently actively pursuing these types of alternative energy technologies, several leading companies indicated that they evaluate the possibility on a regular basis and would move forward with the technology as soon as the payback period shortens.

While energy costs in the U.S. are low compared to many industrialized nations, several factors are placing upward pressure on prices. One major factor is growing concern about the negative environmental and public health impacts of electric power plant emissions. These concerns have driven the implementation of federal and state regulations that will require reductions of nitrogen oxides and sulfur dioxide emissions of up to 75% over the next ten years in many cases. Restrictions on mercury and carbon dioxide emissions are also likely over the next ten years. Other factors driving prices up include growing instability in oil markets and the failure of state deregulation to deliver on price reductions. Companies aggressively pursuing superior energy management will be better insulated from price increases.

2.2.2 Climate Change

Climate change has broad implications for the whole economy. Most affected, however, will be the electric utility sector. This is because the combustion of coal, oil, and natural gas to generate electricity is the largest source of carbon dioxide emissions. Carbon dioxide traps energy from the sun in the earth's atmosphere and causes it to warm up. As the science[8] behind climate change begins to drive regulatory

policies, the ultimate impact of these initiatives on the price of electricity remains undetermined.

Under the United Kingdom's carbon pollution credits trading program, the price for carbon is currently around $13 per ton (as of August 21, 2002), which is up from $6 at the beginning of 2002[9]. Shell currently estimates the future cost of carbon will be about $25 per ton. As carbon costs are imposed on electricity generators, the cost of generating electricity will rise accordingly, especially for coal- and oil-based generators. Therefore, superior energy management can help companies maintain profitability if cost increases were to materialize.

Should climate change-related cost increases materialize, cost projections for capital investment options will favor more aggressive energy management. Firms that are leaders would realize additional gains from their investments in energy management in addition to achieving a lower cost structure under normal business conditions. Lowe's is currently sourcing green power from the TVA where it is available in an effort to lessen environmental impact from energy consumption.

3.0 ANALYZING ENERGY MANAGEMENT PERFORMANCE

3.1 CRITICAL ELEMENTS OF AN ENERGY MANAGEMENT STRATEGY

To assess the financial impacts of energy management in the retail merchandising sector, Innovest developed a comprehensive methodology for analyzing relative corporate performance (see Appendix A). The model looks at corporate policies, performance trends, savings estimates, technology assessment initiatives, training programs, strategic profit opportunities and many other factors. Data sources include government websites, third party research and company-supplied information. This information is supplemented with interviews with company executives. Innovest's analysis showed a wide range in the level of commitment to energy management and the willingness of management to discuss energy and environmental performance with stakeholders.

The following sections summarize several of the metrics considered in this analysis. These metrics include energy management capacity, performance trends, systems management and integration, extent of technology replacement/installation, building design, alternative energy sourcing and strategic profit opportunities pursued.

Energy Management Capacity:
This metric broadly refers to the quality of processes in place to ensure effective communication between individual stores and the corporate energy team, as well as between the corporate energy team and industry peers and external stakeholders. This is considered important because it can gauge the strategic priority placed on energy management at the corporate level. Participation in best practice sharing, training of employees at all levels and a relatively longer-term view of energy management are important indicators of high energy management capability. This metric indicates to what extent energy efficiency programs and practices are in place in the case where quantitative data is lacking.

Senior management commitment to energy management is also a primary factor determining the level of capability. Implementing a proactive energy management system is a complex task. Even simple eco-efficiency measures, such as installing energy efficient light bulbs, require a strong commitment on the part of management to ensure that such measures are consistently applied. Additionally, since some of the benefits of improving energy efficiency are intangible and difficult to quantify, such as enhanced image and productivity, not all

companies will act to improve performance. Therefore, this complexity potentially makes energy management a good indicator of management quality and thus stock market performance.

Performance Trends:
This metric generally indicates the implementation success of an energy management strategy. Companies that take their energy management strategy seriously are able to, at the least, compile data on performance indicators such as percent decrease in total energy consumption, the average load factor, unoccupied demand and the energy consumption of an average store. The availability of this data is important so that it can be compared with data before the energy strategy was implemented and thus justify the existence of the energy management team, efforts and expenditures within the company and to external stakeholders. If performance trend data is not available to prove the usefulness of the energy management program, the program could be at risk of being perceived as ineffective and thus receive less support from the executive level and external stakeholders.

Systems Management and Integration:
This refers to the extent to which companies take a systems view of energy management. Sector leaders implement sophisticated energy management systems that allow system-wide monitoring of energy performance. In addition, leaders seek to maximize the integration of various systems and thereby minimize overall energy use.

Technology Replacement and Installation:
This refers to the extent to which energy efficient technologies such as T8 lighting with electronic ballasts, high efficiency HVAC units, efficient escalator motors and motion and occupancy detectors have been installed in stores. Innovest analyzed the proactiveness of technology replacement and installation by considering the tendency to upgrade equipment versus maintain older, less efficient equipment. This metric indicates whether the company is likely to be a first mover or a follower in high efficiency technology replacement and installation in the future. Less sophisticated companies make investments in energy management based on simple cost-benefit analysis. Leaders are better able to incorporate long-term financial benefits and intangible factors into their investment decisions. This means they might accept a longer payback period and larger upfront expenses in return for greater financial benefits over the long term.

Integration of Energy Efficiency into the Building Design:
Integration of energy efficiency into the building design can strongly signal the extent to which energy efficiency is viewed as a goal throughout the entire company, not just in operations and/or facilities management. This is because it involves working with

construction and design, materials purchasing and real estate purchasing/leasing teams. Significant reductions in energy consumption can be made via skylighting, high quality insulation, solar reflective rooftops and strategic placement and design of entrances and exits. Therefore, even if companies do not disclose consumption data and trends, it can still be determined that stores with these energy efficient design characteristics are likely to be more energy efficient than stores without these features.

Green Energy Purchasing:
The ability to investigate and pursue renewable or green energy supplies not only indicates a sophisticated energy management team that is committed to environmental stewardship, but also means that the company likely has lower exposure to future climate change regulation as it is already in a position to purchase energy from sources that will be favored by such regulation. Companies that choose to meet their energy needs from renewable sources are considered environmentally proactive.

Strategic Profit Opportunities:
If a company is not in the business of selling products that are typically certified with the ENERGY STAR label (such as home appliances, electronics etc.), it can still profit from its energy management initiatives through market share gains made by appealing to environmentally conscious consumers. Environmentally conscious consumers tend to make decisions on where to shop based on the perceived environmental stewardship of the company, given all other factors are equal. If a company is able to make its efforts to be energy efficient well known to the public through its annual report, response to individual inquiries, website, store education or public relations campaigns, it is likely to gain customer loyalty. Retailers that sell products that could be labeled energy efficient may also benefit from increased customer loyalty, as well as from the additional market share and higher profit margins associated with selling ENERGY STAR labeled products.

3.2 LEADING ENERGY MANAGEMENT PRACTICES

The following are leading practices in the retail merchandising sector for each critical element explained above.

3.2.1 Energy Management Capacity

Leaders usually have a central energy management staff, which is comprised partly of professional energy experts. This group co-ordinates management activity at individual stores; informs and

trains regional managers and staff; and keeps tabs on technological developments, tax breaks and tighter regulatory controls. It also provides the important function of developing and deploying an informed energy strategy. The coordinating function of a central staff ensures the broadest application of best management practice. Both Lowe's and Costco exhibit signs of strong energy management capacity in that they are willing and able to communicate with internal and external stakeholders regarding energy management and environmental stewardship.

At Costco, there is a corporate energy management team of four individuals that sets the overall energy strategy, develops training courses for individual store managers and employees, and tracks and regularly reviews consumption data. In addition, this team coordinates with the facilities management and construction teams to integrate energy management into those functions. At the store level, each store manager is ultimately responsible for energy expenditures at a particular store. Stores in similar regions are benchmarked against one another, with store manager compensation linked to the local success of the energy management strategy as measured by consumption levels. Tying energy use to management compensation ensures that managers make a point of following through on strategies and procedures.

Another sign of strong energy management is an ability to adapt and respond to varying circumstances quickly and effectively. Costco not only developed an emergency energy management scheme in response to the California energy crisis but also had the prudence to inform consumers of the scheme in an effort to boost corporate reputation. This most likely would not have been accomplished without a well organized and focused energy management team.

Leaders in energy management tended to be active in the EPA's ENERGY STAR program. The program provides advice and various tools to retail merchandising firms on improving energy efficiency. See Appendix B for more information on the EPA ENERGY STAR program.

Leaders also tended to take greater advantage of tax credit and other incentive programs promoting energy efficiency. For example, the New York State Building Credit program gives tax credits to qualifying projects with energy efficient technologies otherwise known as "green buildings." In addition, several states including Massachusetts, Pennsylvania, and Rhode Island are developing demand-side market/tax incentives to reduce energy use. A number of other states, such as California and Oregon, have tax credit programs for renewable energy which could help defray the initial costs for solar and fuel cell systems. These programs can change the

cost structures for equipment upgrades and new technology investments.

Strong management capability is also signaled by participation with non-profit organizations dedicated to energy management such as the Alliance to Save Energy. The Alliance to Save Energy is a non-profit coalition of business, government, environment and consumer leaders that promotes energy efficiency worldwide to achieve a healthier economy, a cleaner environment and energy security. More than 70 corporations and business trade associations work together through the Alliance to promote greater investment in cost-effective energy efficiency. Home Depot and Sears are Alliance Associates. Associates participate in a range of programs and activities, including the Federal Energy Productivity Task Force, the Summit on Energy Efficiency, the Evening with the Stars of Energy Efficiency Awards Dinner and policy breakfasts with decision makers and other noted speakers.

3.2.2 Performance Trends

The largest component of operating costs is payroll and benefits, followed by rent, advertising and then utility expense. Utility expense is a larger percentage of operating costs than communications, office supplies, packaging materials, repair services, legal services, accounting and auditing services or data processing and computer related services. As a result, many companies track energy costs in detail.

Computerized monitoring and control equipment allows management to track energy use throughout the company and benchmark performance. This capability provides vital feedback on the success or failure of various initiatives and alerts management to problems, such as unusual spikes in usage. Monitoring is a key element in the deployment of energy management plans since it measures improvements and educates management about costs and savings.

Costco reduced total energy consumption by 10% after implementing energy management programs. It is evaluating and testing new initiatives that could yield much greater improvements. Target Corporation reported that energy management initiatives implemented in 2001 resulted in savings of 37 million kWh corporate-wide ($2.6 million at seven cents per kWh). Similarly, Wal-Mart reported it is achieving annual savings of about 250 million kWh as a result of its energy management initiatives[10] ($17.5 million at seven cents per kWh).

3.2.3 Systems Management and Integration

Leading companies in the sector have developed management programs focused on continuous improvement of store operations. These programs include basic maintenance schedules, installing the latest technology in older facilities, and centrally sourcing energy efficient equipment for the whole company to ensure wide implementation. Having clear day-to-day operating guidelines and procedures ensures system efficiency is maximized. Through regular maintenance, management can ensure that equipment is running at peak performance and is providing the best return on investment over its life. Seeking potential opportunities for retrofitting older operations with new, more efficient equipment further ensures system efficiency.

Integration of building operation and management systems is one of the most effective energy management strategies available to organizations. Systems integration facilitates optimized handling of design issues - such as solar load and humidity, and right-sizing of equipment, ultimately yielding tremendous capital and operations cost savings.

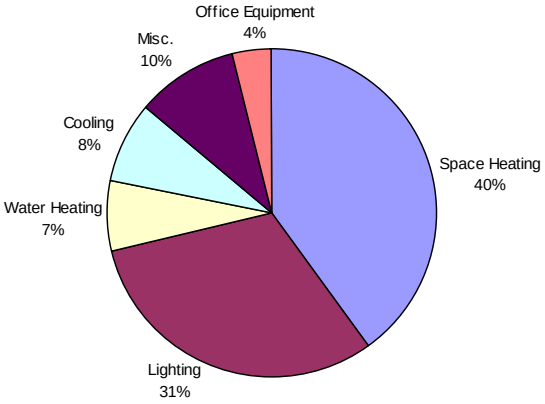
With the help of the Electric Power Research Institute, Wal-Mart developed an energy efficient, integrated water loop heat pump system that increases ventilated air, lowers humidity, maximizes refrigeration heat recovery and uses non-CFC refrigerants. The 204,000-square foot Eco-store is realizing a 22% energy savings over the base HVAC system, equivalent to energy savings of $102,806 annually[11].

3.2.4 Technology Replacement/Installation

The American Council for an Energy Efficient Economy (ACEEE) conducted several major studies[12] that show potential financial returns from various energy efficiency improvement initiatives. For the commercial buildings sector, these included various improvements to HVAC and lighting systems that could generate returns of 25% or greater. Several of the most financially attractive initiatives included:

- Integrated commercial building design.
- Integrated lighting fixtures with controls.
- Improved ducts and fittings.
- Improved heat exchangers.
- Integrated space / water heating systems.

Many of the firms analyzed by Innovest are taking these measures. Most firms focused their efforts on HVAC and lighting upgrades. (Figure 7 shows that HVAC and lighting comprise over 75% of energy expenditures in retail buildings.)



Source: Energy Information Administration, 1995 Commercial Buildings Energy Consumption Survey

Figure 7. Site Energy Use in Retail Buildings

Lighting is an essential part of any management plan not only because it comprises roughly 31% of energy use for retail operations, but also because it is one of the quickest and most affordable upgrades that can be done and usually requires no down time for the store. There are many technological innovations that can increase lighting efficiency, such as ballasts and controls that determine light levels as well as more efficient bulbs. Many firms are switching out less efficient T-10 lighting with T-8 lighting. Adding computer controls and occupancy sensors can also maximize lighting efficiency by turning off lights in unoccupied spaces. In addition, replacing other types of lighting, such as metal halide HID, mercury vapor, or high pressure sodium lights, with T-5 florescent lighting can improve efficiency.

The following examples demonstrate how leading companies in the sector are increasing the efficiency of store lighting systems. Home Depot and Lowe's are using a T5 lighting system in some stores and offices. Recent improvements in Target stores around the country include more efficient exit signs, lowered ceiling heights to bring lights closer to merchandise, skylights and dimming systems to reduce light use during day. In June 1993, Wal-Mart opened a prototype store in Kansas, called an Eco-store, with a glazed arch at the entrance for day-lighting and advanced lighting monitors to enhance the effectiveness of the skylights. In 2001, Wal-Mart tested a new lighting scheme to create a brighter shopping atmosphere and reduce energy costs. The system utilizes T8 lamps, electronic ballasts and a fixture with a staggered reflective lamp design. The design expands the light spread from the fixtures, improves vertical and

horizontal light distribution, uses 40% less electricity and provides 60% longer life than the standard lamp design.

HVAC system performance has improved greatly over the past decade, making retrofits of older systems an excellent opportunity for investment. Additionally, there is large potential to integrate these systems with other systems in the store to achieve higher levels of efficiency.

The following examples demonstrate how leading companies in the sector are increasing the efficiency of HVAC systems. Wal-Mart utilizes a heating and cooling system (as noted earlier) that utilizes ice storage and coordinates space conditioning, dehumidification, ventilation, indoor air quality, heat recovery and refrigeration in some stores. In all stores, Wal-Mart uses high efficiency HVAC units with an energy efficiency ratio of between 10.1 and 11, compared to the standard of 9.0. Target has decreased chiller sizes by adding economizer controls to packaged unit fan systems and initiated staged cooling in stores with centralized HVAC systems. Target regularly replaces 30 to 40 HVAC systems a year, constantly fine tunes the energy management systems in stores and regularly calibrates thermostats. Other related aspects of retrofitted Target stores include ceiling fans to reduce need for air conditioning and a solar water heater for all the water needs in the food area.

3.2.5 Building Design

In addition to upgrading existing systems and stores, leaders in the sector have outlined energy and environmental standards for new facilities. This enables them to lock in efficiency gains over the long term by making sure the best available technology and architectural properties are incorporated into each new store.

For example, Wal-Mart has three Eco-stores to serve as testing centers for the most advanced environmental innovations in building design. Features of the stores include a recycled asphalt parking lot, electric car charging stations and an ice storage system to reduce peak demand of cooling energy. The California Eco-store has an 18-kilowatt solar photovoltaic canopy in place of ordinary opaque roofing. Annual energy savings as a result of the canopy are estimated to be between $75,000 to $80,000, resulting in a three-year payback on the technology; Southern California Edison, the local utility, provided a $170,000 incentive that shortened payback to less than one year.

Daylighting is the most common design element utilized to increase building energy efficiency. Wal-Mart and Costco use daylighting

extensively. Every new facility Wal-Mart builds includes skylights with a dimming system; there are currently around 600 facilities with the system. Wal-Mart completed an in-house study in 1998 concluding that its daylighting system utilized 25% to 35% less energy than the daylighting systems that other big box competitors have implemented.

Costco started investigating the benefits of daylighting in the late 1980s because management wanted to increase light levels without increasing operating costs. The company currently utilizes skylights in most stores. A single photosensor is positioned in one of the skylights and signals the daylighting controller to turn the electric lights on or off. Electrical circuits are zoned so that light fixtures directly adjacent to a skylight (about one-third of all light fixtures in store) are turned off when light levels rise above a first set point. The next third of fixtures turn off when light levels get above a second point, and the remaining third are always on during hours of operation. The set points can be adjusted remotely. In most Costco stores, skylights cover about 4% of the roof area, evenly distributed over the shopping area. They are constructed of acrylic-clad fiberglass and are approximately 40% more efficient than standard skylights, maximizing natural light transmission with minimum heat gain. As a result of this advanced design, Costco has been able to reduce indoor lighting by two-thirds in some stores during the day[13].

In addition to daylighting, the most proactive companies utilize leading-edge insulation technology in walls and roofs, for example by making their rooftops solar reflective. Wal-Mart, Costco and Lowe's have store roofs that are coated with a white, cement-based material to reflect heat, resulting in an estimated 20% savings in energy costs.

3.2.6 Green Energy Purchasing

Several companies said they were investigating green energy sources. However, Lowe's is the only firm currently purchasing green power. The company is the largest purchaser of Green Power Switch (GPS), the renewable energy program offered by the Tennessee Valley Authority (TVA). Lowe's green power purchases total about 3% of its monthly electrical use at the 32 Lowe's stores where GPS is currently available. The Environmental Protection Agency recognized Lowe's for its purchase of green power through its Green Power Partnership, a voluntary initiative to establish green power procurement as a best practice of environmental management. "Using clean energy is part of our corporate citizenship," says Robin Nickles, Vice President of Retail Facilities Management for Lowe's.

3.2.7 Selling Energy Efficient Products

General merchandising firms impact national energy efficiency in two ways: through the energy management of their own facilities and by promoting and selling energy efficient products. The EPA's ENERGY STAR program provides a highly successful and widely used scheme for labeling energy efficient products. (The ENERGY STAR program is discussed in Appendix B.) Within the sector, Innovest found wide variations in the promotion of ENERGY STAR products. Leading companies in the retail merchandising sector, such as Sears and Lowe's, offer a large selection of energy efficient labeled products. They also make significant efforts to promote these products and educate consumers about them.

Sears was awarded the ENERGY STAR Retail Partner of the Year for the third year in a row in 2002 for its leadership in selling and promoting products that carry the ENERGY STAR label and its R&D of ENERGY STAR products. In California, Sears doubled its sales of ENERGY STAR refrigerators in 2001. Other efforts to promote energy efficient products include offering rebates on ENERGY STAR appliances at all Sears stores in recognition of "ENERGY STAR Month" at Sears every April. Sears brought the most water- and energy-efficient brand of laundry products to the market in 2000 through 2001 and has committed marketing dollars toward consumer education on the benefits of buying and using ENERGY STAR products, including in-store information, advertising and nationally distributed print media.

Lowe's also aggressively markets ENERGY STAR products. It has an "energy center" on its website, where it promotes ENERGY STAR products, allows people to search for ENERGY STAR rebates, advertises classes on energy conservation offered at Lowe's stores, and provides a virtual tour of the DOE's Energy Savers model home. Lowe's printed 700,000 copies of a 12-page ENERGY STAR solutions guide for distribution throughout all retail store locations in 2001. Most stores also hold energy efficiency clinics periodically, covering topics such as installing insulation, ceiling fans and programmable thermostats. Lowe's issued a press release discussing techniques to increase energy efficiency in homes, promotion of ENERGY STAR products and the results of a consumer survey on the importance of energy efficiency.

The market for energy efficient products is growing, driven by forces including energy price and availability concerns as well as promotional efforts. A study conducted by The Northwest Energy Efficiency Alliance[14] concluded that promotion and consumer education were key driving forces behind recent increases in sales of energy efficient products. The ENERGY STAR program helps retailers increase sales by providing important promotion and consumer

education materials. Retailers also benefit since ENERGY STAR products generally provide a higher profit margin than non-labeled products.

4.0 SUMMARY – DOES ENERGY MANAGEMENT ADD VALUE ?

Companies rated by Innovest in the top half were picked due to their energy management programs and their overall engagement with key energy management issues. Transparency also played a role as those firms with leading edge practices tend to communicate them to stakeholders. Conversely, lack of information regarding energy management and environmental performance indicates a company is less proactive than peers on environmental and energy management issues. This often indicates less sophisticated management that may underperform the market.

Innovest's analysis of twelve firms in the retail merchandising sector produced results that strongly imply energy management has profit enhancing properties and generates value for shareholders. With a small sample size, it is likely that factors other than energy management are also influencing financial results. Nevertheless, given the differentials found in many measures of economic performance, it is reasonable to assume that energy management is adding some value for investors.

To recap, Innovest's analysis found that leaders in energy management:

- Outperformed in the stock market over the past five years by 7,100 basis points (71 percentage points).
- Outperformed on price-to-earnings by 13%.
- Outperformed on price-to-book by 26%.
- Outperformed on return-on-assets by 49%.
- Outperformed on return-on-equity by 52%.
- Outperformed on return-on-invested capital by 16%
- Outperformed on Tobin's Q, a measure of intangible value, by 8%.

In addition, firms active in the ENERGY STAR program outperformed in the stock market over the past five years by over 6000 basis points (60 percentage points).

These results strongly indicate proactive energy management increases shareholder value. Therefore, investors will likely increase returns by considering energy management and ENERGY STAR participation when making investment decisions.

APPENDIX A: THE ENERGY MANAGEMENT RATING MODEL

To analyze relative energy management in this sector, Innovest developed a multi-factored model (shown below). Data was gathered from many sources including government websites, industry reports and company documents. This was supplemented by interviews with senior corporate executives.

Quantitative data was not available for some of the metrics. Nevertheless, Innovest has found in research of nearly 50 industry sectors that using a multi-factor model allows the creation of accurate ratings in the absence of some data. The comprehensive energy management ratings generated by this model are intended to estimate management quality overall and stock market performance potential. As a result, the management related metrics in the model receive the highest weighting.

Given the differences found in the financial performance of the energy leaders and laggards in this study, it is likely that this model is accurately using relative energy management performance to gauge overall management quality.

Table 1. Innovest Energy Management Assessment Model

1) Energy Management & Strategy	A. Company Energy Policy & Strategy
	B. Integration with Core Business Strategy
	C. Globally Consistent Energy Approach
	D. Energy Management System
	E. Corporate Energy Manager
	F. Internal Engineering Staff
	G. ENERGY STAR Purchasing Policy
	H. ENERGY STAR Involvement
	I. Training: Promotion of Energy Efficiency Among Employees and Customers
	J. Energy Supply/Consulting
2) Energy Risk & Performance	A. Energy Consumption per $ of Revenue
	B. Energy Consumption per Sq. Ft. Per Year(kWh/ft2 -or- BTU/ft2)
	C. Performance Trends
	D. Energy Savings
	E. Facility Risk
	F. Fuel Type Risk
	G. What % of Peak Demand is Unoccupied Demand
	H. Energy Related Emissions
	I. Average Load Factor
3) Energy Efficiency Initiatives	A. Technology Replacement
	B. Investment Requirements
	C. R&D/testing unit
	D. HVAC Technology
	E. Lighting Technology
	F. Alternative/Renewable Energy Use
	G. Building Design
	H. Computerized Energy Management Technologies
	I. Equipment Maintenance
4) Strategic Energy Opportunities	A. ENERGY STAR Products Offered and Related Marketing and Educational Programs for Customers
	B. Market Positioning
	C. Percent Sales Attributable to Energy Efficient Products

APPENDIX B: THE EPA'S ENERGY STAR PROGRAM

EPA introduced the ENERGY STAR Program in 1992 as a voluntary initiative designed to identify and promote energy-efficient products and energy management in residential and commercial buildings. Increased energy efficiency in consumer products and buildings leads to reduced greenhouse gas emissions. The EPA works in partnership with the Department of Energy (DOE) to promote the ENERGY STAR label, with each agency taking responsibility for particular product categories. In the commercial buildings sector, the ENERGY STAR label is awarded to buildings that perform in the top quartile of energy-efficiency for their space type. In 2001, the label was extended to include retail food stores.

The following list describes the accomplishments of EPA's ENERGY STAR Program[15]:

- More than 9,600 organizations have partnered with the EPA to improve their energy performance, committing over 12 billion square feet or 17 percent of the total commercial, public, and industrial building market.
- The EPA's partners saved 38 billion kWh of energy and reduced energy bills by $2.6 billion.
- Cumulative investments in energy-efficient technologies totaled more than $6.3 billion.
- Participants prevented 7.4 million metric tons of carbon equivalent (MMTCE) in 2001 alone.
- ENERGY STAR's partners comprise 30% of the stores and almost 15% of the floor space (1.8 billion square feet) of the retail food industry.

APPENDIX C: ACTIVE ENERGY STAR COMPANIES VS. RETAIL INDEX

Table 2. Companies Comprising the Dow Jones Broad Line Retail Index

BON-TON STORES, INC. (THE)	MAY DEPARTMENT STORES CO (THE)
RITE AID CORPORATION	SEARS, ROEBUCK AND CO.
DILLARD'S, INC.	FOODARAMA SUPERMARKETS, INC.
WINN-DIXIE STORES, INC.	PERFORMANCE FOOD GROUP COMPANY
BUCKLE INCORPORATED (THE)	FAMILY DOLLAR STORES, INC.
LONGS DRUG STORES CORPORATION	RUDDICK CORPORATION
DUCKWALL-ALCO STORES, INC.	WEIS MARKETS INC
SHOPKO STORES INCORPORATED	EAGLE FOOD CENTERS, INC.
SANDERSON FARMS, INC.	PRICESMART, INC.
WALGREEN CO	TARGET CORPORATION
FRED'S INC	DOLLAR GENERAL CORPORATION
VILLAGE SUPER MARKET, INC.	MCKESSON CORPORATION
KROGER CO (THE)	ARDEN GROUP INCORPORATED
SAFEWAY INC	SMART & FINAL INCORPORATED
HARRY'S FARMERS MARKET, INC.	COSTCO WHOLESALE CORPORATION
GREAT ATLANTIC & PACIFIC TEA CO INC (THE)	BJ'S WHOLESALE CLUB INCORPORATED
ALBERTSON'S INC.	VALUE CITY DEPARTMENT STORES, INC.
SUPERVALU INC.	AMES DEPARTMENT STORES, INC.
WHOLE FOODS MARKET INC	WILD OATS MARKETS, INC
STEIN MART	CASEY'S GENERAL STORES INCORPORATED
WAL-MART STORES INC	MAYS (J.W.), INC.
UNITED NATURAL FOODS INC	FLEMING COS INC
MARSH SUPERMARKETS, INC.	PENNEY [J C] CO INC
FEDERATED DEPARTMENT STORES, INCORPORATE	GREEN MOUNTAIN COFFEE, INC.
CVS CORPORATION	7-ELEVEN INCORPORATED
FRESH AMERICA CORP.	DRUGMAX.COM INC.
HOMELAND HOLDING CORPORATION	DAIRY MART CONVENIENCE STORES, INC.
INGLES MARKETS INCORPORATED	K MART CORPORATION
PENN TRAFFIC COMPANY (THE)	NEW WORLD RESTAURANT GROUP, INC.
QUENTRA NETWORKS, INC.	UNI-MARTS, INC.
SYSCO CORPORATION	HORIZON PHARMACIES, INC.
NASH FINCH COMPANY	DRUG EMPORIUM, INC.
PHAR-MOR, INC.	

The designation of active in the ENERGY STAR program was assigned based on consideration of several factors including proactively using ENERGY STAR tools and services to improve the energy efficiency of facilities, receipt of an ENERGY STAR award, and aggressive promotion and marketing of ENERGY STAR labeled products. Firms considered to be active in the ENERGY STAR program are not shown in this summary report. These firms are shown in the full report which is available from Innovest.

APPENDIX D: REFERENCES & FOOTNOTES

[1] The term "energy efficiency" is typically defined as intensity of energy use, or energy used per unit of output. Since all firms did not provide energy use data, Innovest used a comprehensive model (shown in Appendix A) to rate energy management and impute energy efficiency;

[2] Partial funding for this study was provided by the U.S. Environmental Protection Agency;

[3] 1992 Census of Retail Trade, U.S. Department of Commerce, Economics and Statistics Administration, Bureau of the Census;

[4] Skylighting and Retail Sales: An Investigation into the Relationships Between Daylighting and Human Performance, Heschong Mahone Group; August 1999;

[5] 1999 Report on Socially Responsible Investing Trends in the United States, Social Investment Forum, 1999;

[6] RDEC-97 Energy Conservation Industry Review, Business Communications Company, Inc., November 1998;

[7] 1995 Commercial Buildings Energy Consumption Survey, Energy Information Administration;

[8] For more about climate change and likely outcomes and policies see: Climate Change 20001 – the Scientific Basis; Intergovernmental Panel on Climate Change, UNEP 2001;

[9] Source: Natsource – a pollution credits trading firm that handles trades in carbon pollution credits. For current pricing contact Michael Intrator, Managing Director at 1.212.232.5305 or mintrator@natsource.com;

[10] Energy Efficiency Opportunities: Big Box Retail and Supermarkets, Rick Fedrizzi and Jim Rogers, The Center for Energy and Climate Solutions, May 2002;

[11] Dual-path Heat Pump System used in Superstore, Centre for the Analysis and Dissemination of Demonstrated Energy Technologies, International Energy Agency & the Organization for Economic Co-operation and Development, February 2000;

[12] Emerging Energy Saving Technologies and Practices for the Buildings Sector, American Council for and Energy Efficient Economy, Davis Energy Group, & E Source , Dec. 1998;

[13] Daylighting Initiative, Design Tools and Information from PG&E, Pacific Gas and Electric Company, 1999;

[14] ENERGY STAR® Residential Lighting Program No. 1, Market Progress Evaluation Report, Report # EO2-101, ECONorthwest, June 2002;

[15] 2001 ENERGY STAR Annual Report, Environmental Protection Agency

APPENDIX E: ONE PAGE COMPANY PROFILES

Lowe's Companies Inc

LOW

Innovest
Strategic Value Advisors

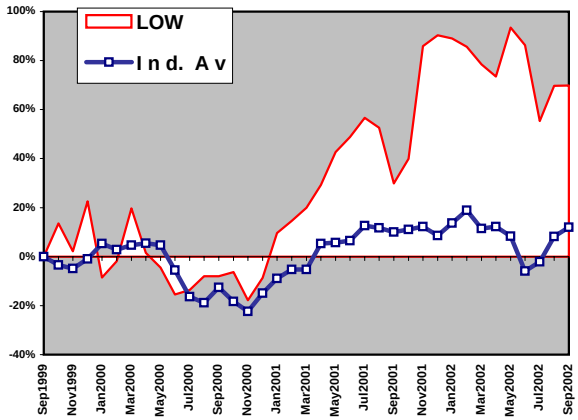
Energy Management

RATING: AAA **RANKING:** 1 **SECTOR: RETAIL** **February-03**

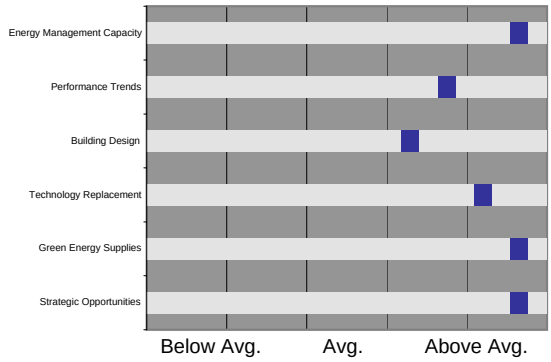
Company Overview

Lowe's is a $22 billion retailer of a complete line of home improvement products and equipment; it is the world's second largest home improvement retailer and the 14th largest retailer in the U.S. The company is in the midst of an aggressive expansion plan, opening a new store every three days on average. The company's current store prototype has a 121,000-square-foot sales floor with a lawn and garden center averaging an additional 30,000 square feet. In 2001, Lowe's opened 115 new stores, the majority of which were in metropolitan markets. In 2002, the company plans to open 123 new stores and continue its emphasis on cities with populations greater than 500,000.

Financial Performance (stock price change)



Relative Energy Performance



Energy Management & Strategy

Lowe's leads the industry in integrating energy management into its overall business strategy. Its energy management strategy focuses on equipment efficiency and central automation of lighting and HVAC systems, complemented by an emphasis on energy efficient building design and the use of green power in certain locations. Lowe's sells and promotes a wide range of energy efficient products; promotional efforts include customer workshops, easy access to highly trained employees and a TV commercial publicizing the financial benefits of utilizing energy efficient products in the home. Unique to Lowe's is its utilization of leading-edge technologies in office buildings, which is a sign of how pervasive energy management is throughout the company. The corporate energy team consists of six people; local store manager compensation is not linked with energy management due to the high level of centralization.

Energy Performance & Initiatives

Lowe's has had centrally automated lighting and HVAC systems since the mid 1980s, with real-time information transfer. All stores have override capability; overrides are monitored on a daily basis so that they can be kept to an absolute minimum. Lowe's makes efforts to smooth spikes and peak demand, such as coordinating HVAC systems with outdoor lighting and staged indoor lighting. Building design elements utilized include daylighting, mostly in California and Arizona stores, and "cool" roofs in many stores across the country. Most store lighting is T8 with electronic ballasts, although the company is considering shifting to T5 lighting in the future. Energy management is an important consideration in construction of new office buildings as well as stores. Energy management initiatives at office buildings include lowered square footage per person, daylighting, fretted glass, high efficiency chillers and boilers, T5 bulbs for indirect lighting, occupancy sensors, dual switching and building commissioning to ensure high performance of equipment.

Energy Risk Factors

The company's overall risk is low relative to competitors, as it is on the leading edge of implementing energy management techniques. For example, Lowe's is the largest purchaser of Green Power Switch (GPS) - the renewable energy program offered by the TVA. The company's green power purchases total about 3% of its monthly electrical use at the 32 stores were GPS is available. Not only is this environmentally beneficial, but it signifies the company's willingness to be a first mover on implementing new technologies. As a result of investments in green power, combined with investments in technology and energy efficiency education, the company's exposure to energy price volatility is low relative to peers.

Strategic Profit Opportunities

Lowe's has an "Energy Center" on its website, where it promotes ENERGY STAR products, allows people to search for ENERGY STAR rebates and tour the DOE's Energy Savers model home and lists schedules for energy conservation classes offered at Lowe's stores. October 2002 was energy efficiency month at Lowe's; the company printed a 12 page ENERGY STAR solutions guide for distribution throughout stores and most stores held energy efficiency clinics on weekends during the month. The clinics covered topics such as installing insulation, ceiling fans and programmable thermostats.

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New York: (212) 421-2000 **London:** +44 (0) 20 7743 8871 **Toronto**: (905) 707-0876 **Paris:** +33 1 4886 0369 **www.innovestgroup.com**

Costco Wholesale Corporation

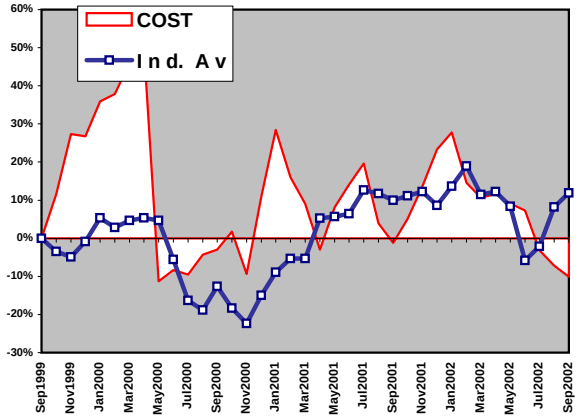
COST | Innovest Strategic Value Advisors | **Energy Management**

RATING: AAA **RANKING:** 2 **SECTOR: RETAIL** **February-03**

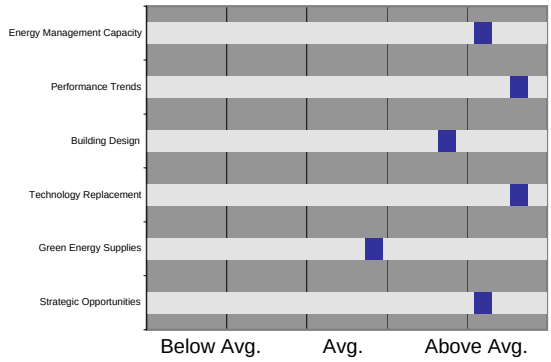
Company Overview

Costco Wholesale is the largest wholesale club operator in the U.S., operating 385 membership warehouse stores serving more than 36 million members in the U.S., Canada, Japan, Mexico, South Korea, Taiwan and the UK. Stores offer discount prices on 3,700 to 4,500 products (many in bulk packaging), ranging from alcoholic beverages and appliances to fresh food, pharmaceuticals and tires. Certain club memberships also offer products and services such as car and home insurance, mortgage and real-estate services, and travel packages. Revenues for the fiscal year ending August 2002 were $38.7 billion.

Financial Performance (stock price change)



Relative Energy Performance



Energy Management & Strategy

Costco has a comprehensive energy management strategy in place that focuses primarily on facilities management and technology upgrades. Facilities management improvements are accomplished by educating employees at the store level, implementing building management systems and tracking facility performance. Upgrades of lighting, HVAC and refrigeration technologies are considered on a regular basis. In response to the energy crisis in California, Costco adopted Emergency Conservation Management Guidelines to be implemented nationwide. At the corporate level, there is a team of four individuals responsible for implementing the energy strategy, with the facilities, construction and purchasing departments involved at all levels of operation. At a minimum, detailed reviews usually occur at least twice a year.

Energy Performance & Initiatives

Stores are treated as separate profit centers with energy costs incorporated into the facility's overall profit targets. As a result, each store manager is responsible for energy management at the store level, with compensation tied to energy performance. Stores in similar regions are benchmarked against one another. Costco has reduced total energy consumption by approximately 10% as a result of its energy management programs. The company's most widespread energy management initiative seems to be the integration of daylighting into its stores; the installation of acrylic-clad fiberglass skylights, coupled with photo sensors and zoned electrical circuits, is estimated to conserve 1.5 kWh/sq.ft./year or $23,000 per store. The majority of stores have programmable building control systems for HVAC, lighting and daylighting controls. Multi-site tracking is now operational at all U.S. and Canadian sites, with one of the main functions being override monitoring. Costco pursues construction incentives from local utilities promoting energy efficiency technologies and state agencies for both new stores and retrofitting of old stores.

Energy Risk Factors

The company's overall risk is low relative to competitors. Energy management initiatives and capital spending will ensure improved performance by lowering operating costs. Although Costco has not significantly invested in renewable energy sources to date, it is presently evaluating these options. As a result, the company will probably be well positioned to integrate renewable energy options as costs decline. Costco's investments in technology and energy efficiency education lower its exposure to energy price volatility .

Strategic Profit Opportunities

During the California energy crisis, Costco implemented an emergency energy management scheme and reported to the California Technology, Trade and Commerce Agency that it received positive feedback from its member shoppers after implementing the procedures. Costco sells some ENERGY STAR products and highlights them on its website. Industry leaders educate consumers on the benefits of purchasing the products more comprehensively and offer rebates to subsidize the higher up-front costs.

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