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Mid-Market Management Trends ...

Stopping the Profit Drain from Higher Energy Costs

by Howard Muson

Corporate America can expect little respite from soaring – and volatile – energy prices. Smaller companies can protect profits by strengthening the ways they manage energy use.

Thirty years of effort by industry and government to promote energy conservation have paid off in more efficient industrial motors, lighting and refrigeration systems, as well as hybrid technologies for converting waste heat to power on-site. Today, however, many experts argue that companies place too much reliance on big, expensive technology projects to cut energy usage in their production plants and corporate offices.

Big capital projects are viewed as hard to justify in terms of payback, especially for smaller and mid-size companies with thin profit margins. According to experts, smaller companies

can do more to conserve fuel and power over the long run, without major expenditures, simply by applying energy-efficiency principles to their day-to-day operations. A dozen energy experts and managers interviewed by The Conference Board suggest that industrial firms wishing to reduce costs have to make energy efficiency a priority and develop coherent structures for managing it. This means focusing as relentlessly on energy issues as they have on other areas such as total quality management (TQM) and safety programs.

The experts recommended a number of specific steps, such as:

- treating energy usage as a strategic issue and setting goals for reducing it;
- clearly understanding the quantity and costs of energy used in company processes;
- building staff awareness of what energy efficiency requires;
- expanding computerized systems that monitor and analyze energy usage;
- ensuring consistent performance of machinery and equipment; and
- holding people accountable for costs.

This new emphasis on efficiency calls not just for strengthening management practices. It requires a transformation in the attitudes of company leaders who have long tended to regard fuel and power as insignificant costs — the legacy of an era when energy supplies were cheap and seemingly inexhaustible.

Although prices of natural gas, diesel, and heating oil have soared to record peaks in the last few years, many smaller firms that are heavy users have yet to adapt. Prices may have fallen off sharply in recent weeks, but the surging worldwide demand for these commodities virtually guarantees that they will return to — and remain at — higher levels. Meanwhile, the futures contracts used by many firms to hedge their risks have become even riskier due to extreme price volatility. Managing futures contracts demands more time and attention than many firms are prepared to provide. According to R. Neal Elliott of the American Council for an Energy-Efficient Economy (ACEEE), “The ability to use financial hedges — long-term contracts — against fluctuations in fuel prices is becoming problematic because energy supply markets are so tight. As a result, we’re seeing a lot more companies beginning to look at renewable energy and energy-efficiency — reducing their consumption, thereby reducing their exposure. They are also looking at what we refer to as ‘opportunity fuels.’ These tend to be such things as landfill gas or other waste fuels that may be available in the general vicinity of a facility.”

The costs of fuel and power may have reached a tipping point where they cut significantly into the bottom line of many smaller firms. Programs to reduce energy use are therefore even more vital now because, when successful, they protect profits and ensure competitive survival.

“Low-Hanging Fruit” at Smaller Companies

Under the U.S. Department of Energy’s Industrial Assessment Centers (IAC) program, manufacturing companies with less than \$100 million in annual revenues are offered free energy assessments by experts at 26 universities throughout the country. The audit teams study data on company processes prior to a plant visit, then spend a day going through the facility to identify the most apparent opportunities for savings.

Over the years, the IAC recommendations have helped participating companies achieve an average of \$30,000 in savings from reduced energy usage and another \$30,000 from improvements in efficiency and waste-handling.

Much “low-hanging fruit” remains to be picked at smaller and midsize companies. The audited companies often achieve savings with investments that offer very attractive payback periods — an average of 5.2 months. A return on investment of approximately 100 percent within 12 months is considered attractive.

Source: Anna Monis Shipley and R. Neal Elliott, Ripe for the Picking: Have We Exhausted the Low-Hanging Fruit in the Industrial Sector? American Council for an Energy-Efficient Economy (ACEEE), April 2006.

Continuous Energy Improvement

The urge to solve problems with expensive technology and reengineering projects — the “project” approach — is common among manufacturing companies. Michael S. Pappas, senior vice president of Modular Process Control, a demand-side, energy-management consulting firm in St. Louis, argues that before embarking on big capital projects, companies should devise a management system to gain control of its existing plant and equipment. Such a system ensures greater consistency in operations and saves energy and money almost immediately. It also supplies important information about the company’s production processes that may have been lacking in the past — one of the biggest reasons that capital projects often do not pay off as promised.

With different aging rates of machinery and equipment, staff and manager turnover, and smaller headcounts, Pappas says, no one can explain, much less control, the wide variations in the amount of energy consumed from one day to another. “If you used 3 kilowatts of electricity and 6 decatherms of heat per unit of product two weeks ago, why did you need 6 kilowatts and 9 decatherms today?” Pappas asks. “If you go back two or three years,” he adds, “you may find that the energy used per day, per batch, per shift, per hour is all over the charts. Can you imagine how many capital projects have been developed using erroneous energy information?”

Pappas’s firm trains operators and management staff at the facility to understand what causes energy use to fluctuate so widely and develops a system for controlling those variables so the plant operates steadily from day to day and as close as possible to actual thermodynamic requirements. “The important paradigm shift that a manufacturing company has to make, at least initially, is to treat energy efficiency as a management issue, not an engineering issue,” Pappas emphasizes. Modular Process Control, he says, has a 26-year record of reducing clients’ per-unit energy usage from 15 to 35 percent without the use of capital.

Mercury Marine Group has remedied some of these problems, thanks mainly to one individual’s persistent efforts to make top management more aware of the need for energy efficiency. Mercury Marine, a division of the Brunswick Corporation, is the world’s leading manufacturer of marine propulsion systems. Its corporate headquarters, along with six plants producing outboard motors, are located in Fond du Lac, Wisconsin. From the natural gas that heats the buildings and powers aluminum smelting, to the compressed-air system that drives belts and tools in the assembly process, the plants are all energy-intensive.

In 1999, when public utilities in the region hiked their rates, Jerry Eaton, then the central facilities manager, realized that the company had to start tracking energy usage and allocate costs back to the plants. Eaton convinced top management to install a submetering system at 36 substations that monitors electricity usage throughout the Fond du Lac campus.

Previously, gas and electricity bills went directly to accounts payable, which paid them and, for accounting purposes, allocated them roughly among the plants. The new system makes each plant manager accountable for his or her facility’s energy usage, thereby heightening managers’ awareness of the need to conserve. With a goal of reducing energy consumption by three percent a year, Mercury Marine is pushing a cultural shift toward energy conservation among all its personnel. Eaton says the new system also provides computerized trend analyses, which enable him to justify cost-saving technology upgrades with real numbers. For example, he was able to show senior management the true cost of compressed air used in the plants, along with the potential return on investment of installing a central compressed-air system. The new central system ensures that maximum energy efficiency is achieved at all times, no matter what the load. Installed in 2004 at a cost of \$1.6 million, the system saves the company about \$860,000 per year.

Data on energy flow also serves to head off capital projects that are unnecessary. “A plant manager wanted to put in a new power grid and substation to supply more power for a new manufacturing process,” Eaton recalls. “I was able to show him that we have plenty of power, thus avoiding a capital spend of over \$150,000.” That savings almost paid for the entire cost of the monitoring system, Eaton says.

Getting Top Management's Attention

Despite Eaton's efforts, energy conservation didn't become a priority for Mercury Marine until last year, he says, when natural gas and electricity prices began increasing as fast as the company's healthcare costs. "My pitch to management was that energy savings programs should get the same focus as our safety and quality management programs." In 2005, management agreed to let Eaton devote himself full-time to energy conservation as the company's director of energy and utilities.

Experts and plant managers alike say that it is extremely difficult, if not impossible, to get CEOs interested in cost-saving energy programs. CEOs often delegate responsibility for cost control to other parties, such as plant managers, the head of procurement, or the engineering department. They may never look at the bills themselves, even though energy usage is often the company's third- or fourth-largest cost.

Knocking Down Prices: Alternative Strategies

Besides passing on increased energy costs to customers, probably the most common strategy chosen by companies feeling the pain, here are a few other strategies:

Negotiate with suppliers "Look at the terms under which you purchase energy, your contracts with the electric company, with the gas company," urges Donald Wulfinghoff, author of the *Energy Efficiency Manual*. "Have an energy consultant read the contracts. There may be terms and conditions in there that might be changed to get you a cheaper rate."

Change production schedules This is a powerful way to cut your utility bills, Wulfinghoff says. "It costs the utility company a lot more to make a kilowatt of energy for you at noon than at midnight. If you can shift your energy-intensive operations to times when the utility has a low load, you will probably gain a substantially lower price."

Seek alternative energy sources One smaller company that is pursuing such a strategy is Eagle Alloys Corp, a maker of steel castings in Muskegon, Michigan. To replace natural gas used in its foundry, the company is working with the city to build a pipeline from a local landfill, where methane gas created from decaying material is abundantly available.

Peter Garforth, an international consultant based in Toledo, Ohio, says: "CEOs know the labor costs in the product. They know the cost of material in the product, they know their healthcare costs, their scrap costs. But, unless they've looked at their natural gas or electrical bills lately — and been shocked — they very often regard their energy costs as insignificant and not worthy of attention as a regular management discipline."

Garforth suggests that the first question CEOs ought to ask is, "If my energy productivity increased by 30 percent, would it significantly improve the competitiveness of the business, over either the short or long term?" As vice president of strategy for building-materials maker Owens-Corning, Garforth was senior management sponsor of a program that increased the company's "energy productivity" (the costs of energy in the product) by more than 20 percent. He believes that such savings are possible for many companies and go directly to the bottom line. "Let's say that I am running a business with a net profit of 10 to 12 percent. A two-percent decrease in costs represents a 17- to 20-percent increase in profit. A 20-percent increase in profit is a significant shift."

Donald R. Wulfinghoff, a consultant in Wheaton, Maryland, who has written the book on the subject — the 1,536-page *Energy Efficiency Manual* — argues that "effective management of energy costs cannot occur until the top executive takes personal control of them." They don't have to become energy experts themselves, but they do have to treat managing energy costs as a business issue, Wulfinghoff says, not as "a somewhat flaky, unbusinesslike concern."

CEOs need to send a message to the entire company, Wulfinghoff says, that "We'll make this company energy efficient and we'll do it the right way. We will systematically find and exploit every opportunity for increasing our energy profit, and we won't waste our money and opportunity on trendy gimmicks."

Tighten Management Structures

Energy management is not seen as a full-time function in smaller and midsize manufacturing companies; most often it is folded into the responsibilities of an operations manager who covers multiple functions. Though several departments usually have energy-related tasks, they rarely work together or have a plan for managing costs.

David Hawk, director for energy, natural resources, at the J.R. Simplot Co., a mid-market food-processing company based in Boise, Idaho, illustrates the problem. “I’ve heard that in some plants, five guys walk past a leak in the steam system every day and no one bothers to pick up a wrench and fix it. Why? ‘Not my leak!’ Over time that leak could cost the company \$20,000.”

Studies by the Alliance to Save Energy (ASE), a coalition of government, business, and environmental groups in Washington, D.C., show that the chief responsibility for energy use can be found almost anywhere in industrial organizations, from plant managers to procurement departments, even the guy in the boiler room.¹ “Often, the function is delegated to a single department that can achieve only partial solutions, argues Christopher Russell, former director of industry studies for ASE. “Turf issues within facilities effectively limit the application of expertise, budgets, and authority that are needed to fully control energy costs.”

However, opinions vary on where these energy management functions should be located in an organization. Russell believes the vice president of operations should be in charge, with multiple disciplines forming an “energy-management hub” to coordinate energy-related policies and programs throughout the organization. “It can be a formal structure on the organization chart or, say, a task force that overlays the existing structure,” Russell says. “You cannot put this [function] in the hands of just the chief engineer or maintenance director and expect them to achieve all the savings that are available.”

Lack of cost accountability is a major obstacle to improving energy efficiency in some companies. Many times, plant managers in industrial complexes don’t even see the bills for the fuel and power their units have used, let alone have to answer for them. Instead, each unit pays a portion of the company’s overall energy costs according to some accounting proxy, such as the square footage it occupies.

Without a clear, empowered structure for managing energy, cost-saving initiatives are extremely difficult to sustain. Such projects and programs can languish when key people lose interest or move on to other assignments, only to be succeeded months later by another short-lived committee.

Build Energy Awareness

Privately held, with \$3 billion in annual revenues, the J.R. Simplot Co. is best known for growing, pre-cooking, and freezing potatoes for the french fries sold in fast-food chains such as McDonald’s and Burger King. The company is vertically integrated, with far-flung farming and livestock-raising operations, as well as fertilizer plants.

“In the Simplot world as a whole,” David Hawk says, “we use about 150 megawatts of electricity a day. Our potato-processing plants run on anywhere from 7- to 17-megawatt loads. From the moment the potatoes are flushed into a plant [in water] to the final phase where they are packaged and moved on the conveyor to a refrigeration unit, it is all driven by electricity.” In the potato-processing operations, an increase or decrease of one-tenth of a cent in the cost of energy per pound of product, Hawk says, can have a significant effect on margins. In the fertilizer plants, the price of gas sometimes constitutes more than 50 percent of the cost of the finished product.

¹ Christopher Russell, *Executive Reactions to Energy Efficiency*, Alliance to Save Energy (ASE), June 2006.

An oil and gas geologist, Hawk leads his company's effort to hedge its risks through future contracts. He also spends much of his time battling with utility companies and the state public utility commission over rate increases. J.R. Simplot has joined with other large industrial companies in the West in an alliance to make sure those increases are apportioned fairly among industrial, residential, and commercial customers.

Hawk stresses the importance of education and training in raising staff awareness of energy issues and strengthening operating procedures. J.R. Simplot has opened its plants to a variety of U.S. Department of Energy (DOE) assessment projects. It has brought in experts from other companies and the government to make presentations on technical subjects such as pumps and motors. In 2003, the company tested a software tool for assessing the efficiency of steam systems at its potato-processing plant in Caldwell, Idaho. Originally developed for the DOE, the tool identified opportunities for system improvements that together are saving the company \$329,000 a year.

In the same year, J.R. Simplot put senior managers, key engineering and maintenance staff, and operations personnel from six plants through a diagnostic process run by EnVINTA, an Australian consulting company. The One-2-Five[®] program addresses operational issues in managing energy use. The program for senior executives started with a two-hour session, during which an accredited facilitator led the group through a series of 22 yes-or-no questions that assessed what the company had done to develop

- corporate leadership and commitment to conservation;
- goals and accountabilities;
- opportunities for improving efficiency; and
- priorities for action.

Working from software developed by EnVINTA, the facilitator helped the group reach a consensus answer for each question on how they were managing energy use. The company's practices were then rated on a scale of 1 to 5 using benchmarking data from 1,500 other companies in the One-2-Five database. Typical questions at this stage included:

- Do we have a written plan to address energy management?
- Does that plan identify measurable targets for savings?
- Do we have cascading goals or targets for savings?
- Have we identified the individuals whose departments will be held accountable for contributions to those goals?
- Do we apply the same hurdle rate (payback requirement) for energy-efficiency projects as we do for other capital-investment proposals?

A written report and a follow-up session with the group discussed the company's strengths and shortcomings on each key management point and suggested priorities for closing gaps and improving management practices. Following its program, the senior management team put the technical staffs at six Simplot potato-processing plants through similar One-2-Five exercises. At these sessions, the plant staffs identified changes that could potentially save between \$35,000 and \$250,000 a year with little investment. Whether the savings are actually accomplished or not, the exercises gave operating personnel a clearer understanding of what continuous energy improvement requires, and how they can work together to achieve it.

"Managers who seek to drive energy-saving programs have to understand the plant culture as well as the corporate appetite for investment and cost reduction," Hawk advises. "Proper metering is one of the keys to selling their ideas for investment and managing energy more effectively."

Tune-Up Your Buildings

Much energy is squandered by the ways that commercial buildings are designed and managed. While many headquarters and office buildings have modern, computerized systems that control air conditions and temperature in zones on different floors, these million-dollar systems often stand idle, serving no useful purpose. “Probably half those systems are set on default mode and are not actually working,” says R. Neal Elliott of ACEEE. “Nobody on the building operating staff really understands them, and nobody has bothered to train them.”

In 2003, The Business Council of Fairfield County, Connecticut, home to many corporate and regional headquarters of prominent firms, assessed the efficiency of electricity usage in 14 corporate buildings in the area. The research team used a benchmarking tool developed

by the U.S. Environmental Protection Agency’s (EPA) Energy Star program, which assesses the energy efficiency of commercial buildings on a scale of 1 to 100, compared with the performance of other, similar buildings.

A score of 75 on the EPA scale is in the top quintile of buildings in the database and entitles a company to an Energy Star label. A score of 50 is considered average. The buildings in Fairfield County — all Grade-A commercial office space — averaged a score of 24, according to Joseph McGee, who headed the study.² McGee, a former state commissioner for economic development, says the CEOs on the Business Council board were surprised by the results; several commented that information about building performance rarely comes across their desks.

Planning to Hedge Your Exposure

Some smaller companies swear by hedging as an essential tool for managing volatility in fuel prices. Others shun it as too complex and speculative. Whatever the risks, many smaller organizations – farmers and farm co-ops included – have had to learn basic hedging strategies.

Smaller organizations tend to hedge simply by negotiating forward contracts with suppliers. Forward contracts guarantee deliveries of a physical asset (fuel or power) at a fixed price, at a future time, or for the term of the contract, thus protecting against the vagaries of buying in spot markets. The same result can be accomplished by purchasing futures contracts in the secondary (derivative) markets for such commodities. More intricate instruments, such as “call” and “put” options, are harder to understand without expert advice and also require more cash upfront. (Hedgers pay a percentage of the contract value in premiums.)

Sidney Jacobson, an expert in risk management and commodity trading with PA Consulting Group, argues that a company’s goals for hedging should be part of its strategic planning and budgeting process. In addition, Jacobson, based in Boulder, Colorado, says that setting goals for hedging should be an ongoing part of a company’s risk-management strategy, even in years when it decides not to hedge. The key financial choice for top

management boils down to this: “Okay, we know we have to make this budget. Let’s hedge X percent [of the budget] and let the rest float to market.” Making an informed hedging decision, according to Jacobson, requires:

- a robust forecast of potential energy price fluctuations;
- a thorough assessment of the company’s exposure, based on its fuel and power needs and the likely impact on its budget of various price levels;
- consideration of how much risk that management and the board are willing to undertake, and how much they are willing to pay for it in premiums, and
- checks and balances, including valuations of whatever contracts the company decides to enter, to ensure it is getting fair value and not paying above-market prices.

One of the biggest pitfalls in hedging occurs when companies panic and lock in prices higher than what they really need to meet budget expectations. Those who regard these techniques as too speculative may be making another mistake. They should consider that not hedging can also be risky, since it leaves the company unprotected against budget-busting price increases.

² R.L.W. Analytics, Northeast Utilities/United Illuminating “Retro-Commissioning Pilot Process Evaluation,” August 2006.

Where to Get Help: Perplexing Choices

The zooming costs of fuels and electricity, along with deregulation of the utilities industry, have given birth to a perplexing variety of energy service companies (ESCOs). In the 1990s, utility companies and national energy companies like Enron and Entergy saw buying up engineering expertise to provide such services as a potentially profitable sideline. Firms selling various equipment and software also began to develop these types of consulting services.

Many ESCOs offer what is known as performance contracting, under which they arrange financing and provide expertise free of charge; in return, they share the savings with clients for a period of years under the contract terms. If this arrangement sounds too good to be true, it has turned out that way in many cases. The complexity of performance contracts has led to numerous lawsuits, most often because of disagreements between the parties over the size of the purported savings.

ESCOs have fallen out of favor in recent years for other reasons as well, according to Neal Elliott of ACEEE. Many, for example, lacked the experience and wide range of expertise needed to advise manufacturing clients with diverse production processes. Nevertheless, Elliott thinks that better business models are evolving for ESCOs, and he foresees renewed interest in their services in the current climate of escalating energy costs. “Correctly drafted and properly evaluated,” he says, “these contracts can be very, very effective.”

Engineering firms in recent years have also gotten into the ESCO game, making arrangements for long-time clients to finance energy-saving investments and bringing in legal experts to draw up performance contracts. Elliott sees value in smaller companies working with engineering firms that already know their plants and processes. In addition, many smaller firms outsource the maintenance of whole systems to large technology companies that have wider experience in managing them. Ingersoll-Rand Co., for example, maintains compressed-air systems for manufacturing companies. Johnson Controls and Honeywell Energy Services are global leaders in managing building controls.

The study revealed numerous anomalies in the way building systems are managed. For example, McGee says that the settings for heating and cooling systems are sometimes so out of whack that, at any given moment, both may be activated — heating and cooling the same air at the same time. He believes the dependence of many facilities managers on outside expertise to operate sophisticated systems is one of the biggest obstacles to improving energy efficiency in office buildings.

For companies that build and maintain their own headquarters and office buildings, there are numerous opportunities to save on fuel and utility bills. Just installing modern, energy-efficient lighting or replacing an aging chiller for the air-conditioning system, for example, can result in enormous savings. But top management can also reap huge dividends by paying attention to how their buildings are designed and managed.

Specify energy requirements to architects Enforce efficiency in the design of your new facilities. Before selecting the designers, hire the best energy-efficiency consultant to define the energy performance target for the facility, and keep him involved to make sure that the designers actually meet that target. “If an architect designs a bad building,” says consultant Donald Wulfinghoff, “you will be stuck with high energy costs for the life of the building.”

Adjust new buildings A number of energy service firms specialize in “commissioning” new buildings — that is, tuning up their systems soon after construction is completed to ensure they work correctly.

Update building controls for new equipment

The systems in older buildings can be “re-tuned” to work properly by firms that specialize in “retro-commissioning.” Neal Elliott of the ACEEE points out, for example, that the proliferation of compact, rack-mounted blade servers in corporate offices has added substantially to the total energy needed to run — and cool — corporate data centers. Such additions throw off controls on the building’s electrical and HVAC systems unless they are revised accordingly.

Consider system downtime Joseph McGee of The Business Council of Fairfield County says that today’s top executives want to be assured of having access to company data around the clock, but he questions whether that is really necessary given the amount of electricity consumed during off-hours.

Provide training for facilities managers “The continuous training of facilities managers is woefully neglected in American businesses,” McGee says. What he calls “vendor-dependency” can only be remedied by more rigorous, regularly delivered training in the use of sophisticated monitoring and control equipment. Energy risk containment only begins with building design, Christopher Russell adds. Savings are sustained when energy-efficiency principles are reflected in ongoing maintenance and procedural disciplines.

Forward-Looking Audits

Energy-intensive smaller companies may be surprised at how much they can save with minimal effort and at little or no cost. For these companies, the first step is an energy assessment, or audit, in which an engineer or team of experts goes through a plant to spot opportunities

for energy-saving improvements. The audit report recommends which energy-improvement projects should have priority and provides their estimated cost.

Energy audits are an excellent way for smaller companies to identify good energy-saving opportunities at their plants — the obvious leaks, redundancies, and inefficiencies that can sometimes be quickly remedied. But traditional audits, offered by a range of consulting firms, ESCOs, and equipment makers, vary widely in their depth and quality, notes a recent report by ASE.³ Because traditional audits are usually conducted by engineers, they often end up recommending technology fixes, says Christopher Russell, author of the report. “A more forward-looking assessment also looks at organizational attributes. For example, such assessments can identify procedural bottlenecks and barriers that block energy-saving initiatives.”

Continuous energy improvement is a strategy that combines all energy-related decisions into a daily management discipline, Russell has written. “Energy procurement, maintenance procedures, operational behaviors, and technology selection are orchestrated in a facility-wide management plan. This plan establishes energy as a cost center, subject to goals for improvement, performance measurements, and staff accountabilities.”⁴

³ Christopher Russell, *World-Class Energy Assessments: Industrial Action Plans for Greater and More Durable Energy Cost Control*, Alliance to Save Energy, June 2006.

⁴ Russell, *Executive Reactions to Energy Efficiency*.

Energy-saving programs remain something of a management stepchild in American companies. If undertaken at all, it is mostly to demonstrate good citizenship, not to stem the erosion in profits. Of course, curtailing energy use is a worthy goal in itself, given the risks of worldwide climate change from the burning of fossil fuels. What has perhaps not been appreciated as much, however, is how complacency about energy use increases a company's vulnerability in volatile energy markets. Experts agree that the good times of cheap energy are history. While certainly subject to fluctuation, prices are likely to go higher in the future, jeopardizing the profits and competitive position of many smaller companies.

To prepare companies for this challenge, the leaders must dig down into their organizations to find someone with the vision, enthusiasm, and will to overcome inertia and spur fundamental changes in corporate attitudes and behavior — champions like David Hawk of the J.R. Simplot Co. and Jerry Eaton of Mercury Marine.

Energy Productivity Resources at The Conference Board

As part of its **Business and Energy in the 21st Century** initiative, The Conference Board carried out extensive research on business energy management from 2003 to 2005. With financial assistance from the U.S. Environmental Protection Agency's Energy Star program, along with additional funding support and guidance from a number of members of The Conference Board and the participation of energy experts, several reports were developed that address varied aspects of energy management.

The final report of the initiative is *A Roadmap for Strategic Energy Planning and Management*, which was developed with the active assistance of eight companies from varied sectors. It is a practical, hands-on guide to evaluating, designing, and implementing a broad range of options to improve energy productivity, reduce operating costs, and potentially realize new business opportunities. The *Road Map* is a sequential process that is easy to follow and readily scaleable to any size and type of business.

The current research project, launched in 2006 with the assistance of 13 companies, will expand and extend the strategic management focus to greenhouse gases more broadly. The research report for this project, *Managing for a Carbon-Concerned Future: Obligation or Opportunity?*, will be published by the end of 2006.

The Conference Board's Programs for Mid-Market Firms

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In addition to the benefits available to firms of all sizes, The Conference Board offers a number of special initiatives exclusively for mid-market companies. Through their corporate membership, senior executives from hundreds of mid-sized firms learn from their peers while developing business relationships with firms across a broad spectrum of industries. Membership benefits include conference discounts, research reports, access to our Members Only website, compensation studies, Business Information Service requests, and regional briefings and webcasts on topics such as the maturing workforce, leadership development, executive compensation, and CEO challenges.

Among the most important benefits available to Mid-Market members are the Councils designed exclusively for mid-market leaders: the Executive Council for CEOs and Presidents of mid-market firms (founded in 1966); the Council for Chief Financial Executives, and two Mid-Market Human Resources Councils. For details on the application process and eligibility requirements for these Councils, contact Marty Cohen, Director of Associate Service, at 212-339-0242 or martin.cohen@conference-board.org

Conference Board Research devoted to Mid Market Companies:

Managing Growth in Small- and Mid-Sized Companies, 2001 R1290-01

From Risk Management to Risk Strategy: Mid-Markets, 2005 R1368-05

Mid-Market CEO Challenge, 2005 R1359-05
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Mid-Market CEO Challenge, 2006
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R1384-06

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