

Vol. 02

“Barriers to Industrial Energy Cost Control: The Competitor Within”

Human, technical, financial and organizational capacities all contribute to a manufacturer’s ability to build wealth through energy management. These capacities are crucial in a globally competitive economy that has no patience for waste and inefficiency.

The barriers to energy management are rooted in the very complexity of modern organizations—much like a competitor that resides within your production facility. Communications and incentives are the key to overcoming these barriers. The barriers include:

Misunderstanding the concept. The term “energy efficiency” is easily confused with other activities. Having dual-fuel capabilities in the powerhouse, for example, simply means the operator has a choice of fuels. Enlisting an energy marketer to purchase fuel usually helps to even out energy price fluctuations, but has no impact on efficiency of energy use. The first hurdle to advancing energy efficiency is making sure that finance people perceive it as a business opportunity to reduce expenses, build revenues and control risk.

Lack of staff and management awareness. Staff doesn’t always make the connection between energy choices and money. For example, compressed air leaks are often overlooked because “air is free,” although this conclusion ignores that fact that five horsepower of electricity are consumed to generate one horsepower of compressed air. Plant operators who assume that scrap rates are of no importance “because scrap can be melted down and used again” are not considering the excess energy consumption that this practice requires.

Fear. Does admitting the need for efficiency improvements become evidence of ineffective job performance? Many plant personnel think so.

Complacency and denial. It is easy for top managers to be lulled into complacency about energy and other support functions with which they are not familiar. Who is a 35-year-old general manager to question the report of a powerhouse superintendent with 20 years on the job? These territorial relationships are barriers to energy efficiency, especially when tenured staff explain that “this is the way we’ve always done it.”

Lack of cross-departmental cooperation. The manufacturer’s first priority is to make product and get it out the door, not save energy. Every box on the company’s personnel chart has a job description, accountabilities and incentives—all tied to production. Also, departments within a company often compete against each other in the budget process. For example, energy efficiency projects might be expensed from the maintenance budget, but the savings accrue to the production budget. Unless top management assigns responsibility, energy efficiency is a duty that occupies the blank space on the personnel chart—the space where there are no boxes.

Outdated accounting techniques. Many industrial facilities still have only one utility meter to measure consumption for an entire plant. In this situation, traditional accounting practices treat plant-wide energy as an overhead cost, which is then allocated across departments according to their numbers of workers or square feet of space. The cost of any one department's energy waste is distributed to all departments. Even worse, this accounting system is a disincentive to any one department taking the initiative to improve energy efficiency, because that department's results will be diluted by the artificial allocation of costs. Improper allocation of energy costs may distort financial decisions such as product pricing, income and tax declarations, production mix, compensation and bonuses, and capital investment allocations. But today's advanced energy metering technologies can monitor actual consumption by substations within a facility, improving department managers' abilities to control their energy costs.

Restrictive budget and fiscal criteria. A manufacturer's budget and finance functions can impose procedural barriers to energy efficiency initiatives. Operating budget strategies may simply trend each line item from year to year. The manager that saves energy this year will risk getting a reduced budget for the coming year. Low-bid or least-cost purchasing requirements may be imposed by front-office procurement personnel without thorough consultation with operations staff. Consequently, this arrangement leads to purchases based solely on upfront costs, ignoring energy and other operating costs over the life of the asset.

Lack of management accountability. The rotation of management within companies often prevents the hard decisions from being made. "Not on my watch" is often the response to improvement proposals that won't pay off until after the current manager's tenure is over.

Lack of resources. Because of limited time, money and skills, and with management accountability sometimes tied to short-term results, deferred maintenance is the order of the day. To "save money," some companies will release well-compensated, skilled workers, especially from non-core activities like energy support. The remaining, less-capable staff is ill-prepared to seek, promote and maintain energy system improvements.

The most durable barrier may simply be an organization's business culture. Few corporate leaders, if any, "save" their way to the top. Their bias is for short-term revenue making, not cost saving. This thinking is evident in capital budgeting decisions, where growth-oriented projects are favored over expense-reduction initiatives. Decision-makers that dismiss energy efficiency overlook opportunities to grow revenue through the redirection of energy waste to more productive purposes.

The primary tool for combating energy waste is the facility-wide energy assessment. The assessment will quantify and prioritize savings opportunities. It becomes a blueprint—a business plan—for building wealth. It is the subject of Volume 3.
