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Tim Owens, CMRP, President and CEO, PdMA Corporation Almost every industry in America today is experiencing higher costs—
energy, raw materials, labor, health care, shipping
— you name it. In previous years, industry typically could pass these costs on to consumers, but that's just not the case today. In addition to being concerned about the housing crisis, rising inflation and growing unemployment, American consumers are facing some of the same cost increases as industry. Rather than pay more for things, they're likely to just not buy at all.

So where does industry turn to offset rising costs? Many of our past solutions simply may not work anymore. Odds are that suppliers are already providing raw materials at razor-thin margins. Most companies maintain a lean payroll, and employees are only capable of providing so much "discretionary effort" before they begin to balk.

Fortunately, there is a ray of hope. Many industries are finding significant savings through a rigorous analysis of their electrical and mechanical systems. These savings come in two main areas:

1. *Reliability*—or how much downtime a machine experiences due to breakdowns; and
2. *Efficiency*—or how much output a motor produces for a given input of energy.

Think about it. While companies can't necessarily control the cost of their inputs, they can increase plant reliability and availability without increasing maintenance costs. This is accomplished by implementing sound maintenance and reliability strategies, including a strong maintenance planning and scheduling program, applying predictive maintenance technologies and performing PM optimization.

Within your own company, in situations where old, failure-prone equipment must be replaced, consider involving engineering and maintenance personnel in the planning early on, preferably in the design phase. Additionally, look at life-cycle versus installed costs. The upfront cost usually will be higher, but in the long-run, lower life-cycle costs can save businesses a tremendous amount of money and headaches.

Similarly, upgrading low-efficiency electric motors with premium or high-efficiency motors will quickly pay for itself in reduced energy consumption. For instance, a 30-year-old electric motor is likely to be less energy-efficient than a new one due to advances in engineering and design. Still, efficiency is not just about replacing old, wasteful motors—*it's also about properly matching a motor to its application.*

While an undersized motor will strain to do its job, run hotter, consume excess energy and fail prematurely, an oversized motor will likewise run inefficiently and waste energy. (Think of the old adage about using a hammer to swat flies!) For example, replacing an older, oversized 500 hp motor that operates at just 56% capacity with a newer, more efficient 300 hp model working at 93% capacity can save as much as $10,400 a year in energy costs. If the cost to buy and swap out the motor is $14,000, the total capital investment can be recouped in just 1.3 years.

Businesses today are looking for any edge to remain competitive. If they can't increase revenues in a sluggish marketplace, they can raise their profit margins by cutting costs. By implementing proper maintenance and reliability strategies, as well as performing energy-efficiency assessments, companies are finding the competitive edge they need to compete in a world of higher prices—*and they're doing it on an increasingly successful global scale.* **MT**

This article is part of Maintenance Technology's 2008 Industry Outlook, the annual executive roundtable. Columns from each of the 14 thought leaders who participated can be found at the following link: http://www.mt-online.com/article/0808-industry-outlook

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