

Adding up business and energy

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Could a business practice usually reserved for boosting profits be used to help turn companies green by reducing their energy use? Writing in the International Journal of Six Sigma and Competitive Advantage (IJSSCA), researchers in India provide an answer.

According to mechanical engineer Prabhakar Kaushik of NC College of Engineering in Haryana, India, and colleagues, energy conservation should be at the forefront of company efforts. In a global economy with environmental pressures high on the agenda, organizations are under increasing pressure to control costs, maintain high levels of safety and quality, and save energy. Energy conservation, of course, offers the parallel advantages of helping to reduce costs, improving efficiency, as well as reducing the carbon footprint.

Kaushik's team has now turned to the principles of Six Sigma methodology to help demonstrate how organizations might improve their energy profile. Six sigma is a strategy originally used by Motorola to improve their business practices. It involves seeking out and eradicating the causes of defects and errors using quality management and statistics. Today, countless companies in many different sectors use Six Sigma to improve their bottom line.

The researchers tested their approach on the operations of a thermal power plant with the aim of conserving energy rather than simply boosting profits. They point out that demineralized (DM) water in these plants is one of the expensive input materials. It has been found that 0.1 percent increase in DM make up water consumption increases the

generation cost by approximately 0.2 million dollar per annum. Demineralized water, however, is "critical to quality" and so its use cannot be circumvented.

Project recommendations from a Six Sigma study demonstrated that the overall costs of using demineralized water could be cut significantly. The study points to detection and repair of faults associated with steam and water analysis systems, problem valves, vacuum pump overflow, and other issues. The researchers explain that the energy savings are equivalent to a fiscal cost of more than three quarters of a million dollars each year at today's prices.

The consumption of demineralized water is just one example of energy conservation measures that could be implemented using the Six Sigma approach, the researchers add. They point out that given that India is set to commission dozens of new thermal power plants in coming years, the total energy savings with respect to this particular factor could be enormous.

Source: Inderscience Publishers

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