Reducing The Midwest's Energy Consumption

Bin Wu, Professor of Industrial Engineering

COLUMBIA, Mo. — Reducing energy costs is one of the simplest ways companies can cut expenses and increase profits, but only if they know how to do so effectively. Since its establishment in 2004, the University of Missouri Industrial Assessment Center [1](MoIAC) has helped more than 60 Midwest companies become more energy efficient. Data collected in 2008 and 2009 show that energy audits helped companies save a total of $1.74 million, making it one of the most successful industrial energy-saving initiatives in the country.

MoIAC helps companies by conducting free energy assessments. A team of faculty members and students reviews the company's utility bills, visits the site, identifies opportunities to save energy and submits a recommendation report to the company. The report includes 10 to 20 recommendations focusing on areas that consume a great amount of energy, such as compressed air systems, motors and lighting. The recommendation list notes the costs to make the switch, as well as savings the company can expect. Within a year, the center follows up with the company to see which recommendations have been taken, as well as the actual cost savings. Energy cost savings typically cover the cost of making the change within less than a year.

As part of the program, the team has created an online tool that businesses can use to conduct personal independent energy audits. The model can be adapted and developed for each entity's specific needs, allowing them to conduct an independent energy audit. The web tool features calculators and information to help companies identify potential problems and learn how to fix those problems.

"Energy efficiency makes sense, not only environmentally, but from a business standpoint," said Bin Wu, director of the MoIAC and College of Engineering [2] professor. "There are so many easy-to-fix items that companies just need to be aware of, and they can save a lot of money."

The center opened in 2004, and it began receiving funding from the U.S. Department of Energy in 2006. Since that time, the center has provided service to manufacturing companies across the state, as well as in Illinois and Kansas. Currently, companies that work with the MoIAC save an average of $80,000 per year due to recommendations made by the center. In addition to business

consulting, the center conducts educational workshops for those interested in improving energy efficiency.

Wu says there are several steps that most companies can take to save energy. He says companies can save a lot by employing a regular preventative maintenance program. Inefficient lighting, poor insulation and leaks in compressed air lines are common problem areas for businesses that can be easily rectified.

The MoIAC is staffed by graduate and undergraduate students. Alumni of the program hold degrees in business, engineering and physics, and some are heading energy efficiency efforts at companies around the world.

For more information on energy efficiency or the MoIAC, visit the center's website at iac.missouri.edu [1].

The MoIAC team by the Missouri River after a whole-day industrial assessment trip — from left: Chatchai Pinthuprapa, lead student engineer; Bin Wu, MoIAC director; Sandina Ponte, MoIAC associate, Don Kasten, DOE IAC field manager; Tao Qu, student engineer; Sanjeev Khanna, assistant director; Bichen Zheng, student engineer; Lexie Kim, DOE program officer; Blake Boyle, DOE IAC program assistant."

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[1] http://iac.missouri.edu
[2] http://engineering.missouri.edu/