

Make Your Energy Savings Permanent

Here are five ways to create sustainable energy programs

As a consultant, I make a living off plants that cannot sustain their energy efficiency program. Typically, these plants have had several studies done to try to correct what ails them. Most of the plant personnel already know what problems exist and even how to fix them, but even though they can correct the problem short-term, old habits come back and priorities change. Here are five ways to make your energy programs sustainable and put me out of business.

Install an Energy Management System (EMS) – Such systems are computer-aided tools used to monitor, control and optimize energy system performance. These come in every shape and size. Without one it's hard to sustain your energy program. What's essential for a good EMS? Despite popular belief, if your EMS sits on the desk of a process unit engineer or plant energy manager, chances are your energy program will end when that person leaves the job. For an EMS to be sustainable, the operators must use it. The system should advise the operators what decisions optimize energy usage, how much they have saved by making those decisions or how much they left on the table by not making those decisions. Each shift should be monitored to see who's making the right decisions and who's not paying attention to energy.

Make furnace adjustments routine – Furnaces drive plants crazy. They provide heat for the process or energy used for rotating equipment. They typically are the largest energy users in a plant but, for operations, they are simply a tool used to make the product. Moreover, furnaces today, with low-NO_x or Ultra low-NO_x burners, are complicated and potentially dangerous equipment. However, you won't be able to save energy on a regular basis unless your furnaces are constantly monitored and adjusted to operate at maximum efficiency. Whether this is done with controls, operators, maintenance people or a contractor, it must become part of the plant routine. The most effective programs seem to be those run by an outside contractor. Plant people always seem to have something that takes priority over furnace adjustments.

Have a monthly energy report and present it to the plant manager – You have to have a monthly energy report; it must be clear, concise and informative. I have seen many of these reports and usually they are pages and pages of data that can make the reader numb in less than one minute. Make it simple. Keep it to one page. List the top five items that cost the plant money. Mention the top five improvements from the previous period. Say how much money your program has made during the month and the year. Give credit to people but also criticize things that fall short. Sure, you can have all those endless pages of charts and figures in your appendix. But if you want a report that actually gets read and is effective, nothing beats the one pager for the plant manager.

Make annual training mandatory – No matter how mundane it seems, everyone must take annual training classes to understand the importance of energy and to make the proper decisions each and every day. Operators, maintenance personnel and engineers need to know and understand how important energy is and how decisions they make affect plant consumption. If plant personnel replace traps, adjust furnace burners, check for air and steam leaks, or perform any sort of energy maintenance function, they should

attend yearly training. If you have people who have performed the tasks many times and are bored with the annual training, make them the instructor. Training could always include a field assessment where the personnel are checked performing the duty and asked questions or corrected.

Give money and make it relevant – Let's face it, this is a business. Saving energy saves money and one great motivator for people in your plant is money. If your energy program isn't part of your bonus system, you won't get that extra effort that will make your program successful. However, don't make your goals general. Make them very specific. Involve everyone from the accounting group to the operators. To make sure people stick to the program, the bonus should be based half on the yearly savings and half on each month's performance. This way every month is a fresh start and can put money in people's pockets.

Follow these five practices and you will have a sustainable energy program.

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