

Going Green

By Jim Burke

One of the main advantages of greening your facility is that it can also help save money

An important concept for a number of years has been to “Go Green.” Not only does following this philosophy allow you to save energy and resources, but it also makes you look good in the eyes of many customers. The big question has been, does going green mean making your bottom line red? And what does it really mean for a business to go green? The meaning of the phrase can be fuzzy, especially for a term that has been thrown around so much that it's almost a cliché.

Most recently, one of the most common usages involves reducing your carbon footprint in some way. So how do you reduce the carbon footprint of your company? How can you reduce the energy you use to produce picture frames and their components?

A couple of the most common ideas are to reduce your fuel costs for winter heat if you're in the Northern states or cut your electrical needs during summer if you're in the South or Southwest. There's also recycling. Do you recycle all or some of your production waste, or do you simply ship it away to the local landfill each week?



A corrugated cardboard recycling machine from Strapack can convert boxes into pliant packing material.

Electrical Machinery

One place to start is to take a look at the electrical machinery you use, such as air compressors, double miter saws with two electric motors, laminating machines with heating elements, heat presses, wet glue applicators with roller presses for mounting, and heat shrink tunnels for packaging.

All of these items take electricity in large quantities when left on, running and running, when not being used to cut, mount, laminate, or shrink wrap. Every operator must be aware of the need to shut machinery off when not being used for a while. Restarting a saw every three minutes is less wasteful than letting it run for three minutes while not cutting anything. Compressors also need to be serviced regularly so they don't run hot. Air lines or hoses need to be large enough in diameter so that they don't overwork the compressor. Most importantly, replace any leaking connections to reduce lost air pressure. At night, shut off the air valve connections and electricity to the com-



Lights mounted high in the ceiling of warehouses don't always work well for production operations. Lower fluorescent lighting can be used more effectively and is often many times more efficient for production lines and cells.

pressor so it can't lose air pressure or restart when it isn't needed at night.

Keeping heat presses and laminators up to temperature is important when they need to work, so shutting them down in the same way as a saw isn't recommended. If they won't be used for hours in the middle of the day, however, shut them off.

The other important aspect for saving power with these machines is planning. Make sure that production runs using heat equipment are coordinated into one batch each day and not spread out into two or three sessions, because that is the main excuse for leaving them on. Similar planning can apply to other areas of a frame factory so that equipment is used to its fullest while it's on, especially if it is an electricity hog, and turned off when it's not being used.

For some types of equipment, the amount of energy saved by turning them off is very small and therefore these pieces of equipment are virtual nonfactors. For example, computerized frame joiners and computerized mat cutters use fairly low amounts of electricity when running and almost none while sitting idle. The computers on CMC machines actually use more power when idle than the cutting machines, so putting the computer in "sleep" mode is the best way to save power without having to waste time rebooting.

Power, Gas, Water

Plant power, gas, and water—which you probably pay for—is another area for potential energy savings. For example,



For many buildings, especially older ones, installing a wooden frame with acrylic glazing can create an inside storm window that will reduce heating and air-conditioning costs.

storage areas that are lit by lights all day long even when nobody is pulling stock or looking for items can be adapted to save electricity. Start by making sure that you are using the most efficient lighting for the space. Second, consider the use of motion sensor switches for each area of storage, so that lights only come on if someone is moving into that storage area. Local electricians can quote on the cost and savings over a period of time. Like most energy saving ideas, it can take a few years to pay off the initial cost, but in the end you and the environment will benefit.

Sometimes all it takes is a review of your current lighting to see if what you are using is out of date. Sodium lights that take a long time to start in the morning may not be the best solution for your facility, but fluorescent lighting might be more efficient, especially with different zones in your building. Zone lighting may also provide significant energy efficiency improvements at your facility.

Some energy and resource savings can result from looking at basic factors in a plant. For example, any dripping water appliances or toilets will cost you money. Fix any water leaks as quickly as possible. Air gaps around windows and doors are a big area for heat loss in winter. If your building is air conditioned in the summer, the same air gaps can

result in increased cooling costs on hot days. Air gaps in office areas can be just as wasteful as those in production areas. It doesn't take long to do a quick energy study of your



For window areas that are often covered by inventory, covering the inside with hard foam insulation is a very effective way to reduce energy costs.



Motion sensors (inset) can be used to start security cameras or to turn lights on and off in remote or seldom-used areas of a production facility, such as this storage area.



facility to find out where you're wasting heat, cooling, and water.

Waste and Scrap

Waste materials or scrap created from production is another area that can be improved. Do you pay someone to haul away your glass, mat board, and packaging scraps, or do you get paid for your recycling materials? If your production waste is simply scrap hauled away in dumpsters, check into recycling and the cost savings associated with it. Companies that

buy waste materials are often not municipal services but are private enterprises that make money recycling scrap. Perhaps they may not pay you, but they will at least not charge you to haul it away. That alone can be a significant saving.

Even within your operation, reusing some materials can save money and energy. If you need soft packaging materials for outgoing products, you might be able to save money by using a special machine that converts corrugated boxes into soft expandable packing material. For example, StraPack of Hayward, CA, has an Ecowatt Corrugated Recycler, which is available through strapping or packing distributors around the U.S. The corrugated recycler takes old corrugated boxes, labels and all, and converts them into expandable elastic packing materials. It can help reduce labor, eliminate boxes, and save on new packing materials.

These and other steps can each add a measure of energy savings and help you to develop a greener production facility. Perhaps the most important step is to become more aware and to keep an eye out for opportunities to reduce your energy use and to increase your use of green products. When you do that, other steps will make themselves obvious, and you can make adjustments as you go. The bottom line is that you will save yourself money and contribute to a cleaner, more energy efficient environment at the same time. ■



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Jim Burke owns Machines Etc., a sales and consulting company based in New Bedford, MA. He started in the picture framing industry with Arquati Moulding in Cleveland as general manager. For the past 25 years he has sold and serviced all types of machinery for cutting and joining frames and cutting mats. He has also sold web control machinery to paper mills, tire cord manufacturing, textiles, plastic film extrusion, and paper converting companies throughout the Midwest.