

BUSINESS *of* SUSTAINABILITY

Air apparent savings

By **JOE BOOMGAARD** ▶ TBL
jboomgaard@mibiz.com

ADA – Compressed air might not be what most manufacturers lose sleep over, but it is one area where waste can add up.

The key to getting manufacturers to notice their compressed air operations is to show them what savings they could realize if they had more efficient systems, and that's Jan Hoetzel's job at **SIGA GREEN TECHNOLOGIES**.

"People don't get a bill for compressed air," Hoetzel told *TBL*. "We can get transparency in it."

SIGA is the U.S. distributor for Airleader, a German technology perfected in the 1990s. European energy costs were typically much higher than those in the United States, and manufacturers looked to all possible options to curtail waste – especially energy loss – and help the bottom line.

They kept coming back to their air compressor systems. According to Hoetzel, 80 percent of the cost of the system is energy, whether that's from inefficient modulated systems or from compressors running when no one is in the plant.

"People don't have the information. They can't even start to investigate what to do," he said. "Very often, there's not much information on the system. It's just there and everyone uses it."

The Airleader product first studies how air is used in a given plant, taking into account the size of the compressors, the time they're being used, the amount of time they run, and how they operate in a load cycle. The system measures the energy used to run the system as a benchmark, putting a dollar value on the use.

Using that data, the "intelligent

system" can then monitor air use in real time and make decisions on when to turn on compressors to maximize efficiency, as well as use the correct size compressor to match the given demand.

"We are matching the supply side with the real demand on the plant by using the system most efficiently," said Hoetzel, an engineer by training.

Adding airless drains – which allow only moisture, and not air, to be purged from the system – can also increase savings.

A system equipped with certain sensors can also be connected via Ethernet to remote locations so staff can monitor operations and diagnose problems. They could also be alerted by e-mail or fax when a system failure occurs.

One Kalamazoo manufacturer installed a virtual private network on its system to allow a maintenance company to access data on the compressors to determine when the machines need regular service, like a new air or oil filter. Having that detailed access allows them to be more efficient in their service calls, cutting down on trips and costs.

A European system that can monitor the air for gases or substances is also marketed to the food processing and healthcare industry.

Payback for the system, which starts at \$12,000 and averages \$20,000, ranges from a few weeks to a couple of years, depending on the size of the installation, the status of the compressor and the amount of engagement. A recent local installation resulted in a 50-percent savings within a period of weeks. As the cost of electricity per kilowatt-hour continues to increase, that payback time shortens.

A typical installation involves a weeklong energy audit and two to

▶ **JAN HOETZEL OF SIGA GREEN TECHNOLOGIES HAS BROUGHT TO AMERICAN COMPANIES A LONG-STANDING GERMAN TECHNOLOGY THAT HELPS ELIMINATE WASTE FROM INEFFICIENT AIR COMPRESSORS.**

PHOTO: JOE BOOMGAARD



three weeks to order the equipment.

According to Hoetzel, most Michigan businesses are paying about 8¢ per kilowatt-hour, but places on the East and West Coasts are paying around 15¢. Using less energy to run a compressor system

Kalamazoo. **LACKS INDUSTRIES** signed on last year.

"Surprisingly, it's the smaller companies that are looking out," he added.

He has also targeted German companies that have experience with

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cuts down on those ever-increasing electricity bills and also on the pollution from coal-fire power plants.

Still, with data and customer referrals from thousands of businesses in Europe, Hoetzel said he's had a difficult time getting businesses in the United States and West Michigan to sign on. One system was recently installed at **FABRI-KAL** in

Airleader that are doing business in the United States. Via web-conferencing, Hoetzel said he can make presentations across the country to educate companies.

"My best results are with people into energy efficiency," Hoetzel said. "It's hard to go into the maintenance department. Nobody wants to

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AIRLEADER

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change ...or they don't believe you."

That's where Airleader's data compiling abilities comes in handy, but still, Hoetzel faces an up-hill battle. However, if certain energy efficiency tax breaks come through, that data could be key in proving that changes were implemented. Some utilities have also been discussing paying for energy audits, and Hoetzel has added an employee to concentrate on that side of the business while he does the

selling and looking for independent dealers to partner with.

SIGA also markets HIB wood insulation building blocks to the construction industry. The eco-friendly blocks are light and easily handled without expensive lifting devices and lock together in a Lego-fashion. The reduced weight allows for quick builds, but the block's structural properties make it very wind and earthquake resistant. Because they are hollowed out, the blocks can be filled once assembled to provide insulation from sound and weather, Hoetzel said. **TBL**

MUSKEGON LAKE

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All hands on deck

Cleaning up the lake – and for that matter, not abusing the lake – is no longer a business versus environmentalist debate because the Muskegon business community relies on the health of the lake to draw in thousands of people each year. Muskegon as a tourist destination serves to create jobs and support a growing number of businesses.

"We're back to the water as purely a natural resource," said McGarry. "The water has its own romance and economic value."

McGarry likes to point out that with the addition of the LAKE EXPRESS FERRY in 2004, part of the local economy has gone back to its roots in transportation, and the lake continues to support recreation like fishing and boating.

"As we're clearly going through big

changes in the economy in the state of Michigan, people are worried about the auto industry and the traditional manufacturing industry – and we need to worry about those," McGarry said. "In terms of looking at the resources we have, the amount of water we have, our natural beauty – that's going to be of huge economic impact in the next 20 to 30 years."

In other words, the economic success of Muskegon businesses is inextricably tied to Muskegon Lake's health.

"I firmly believe that now we understand how to be good stewards of natural resources in terms of our own health, but also in terms of what they mean recreationally and economically. If Muskegon Lake were still the same cesspool of 1890, downtown development wouldn't be possible. But just the opposite is true. The issue is that remediation is really expensive. It's going to take a while to clean everything up." **TBL**



Norman Christopher
Director, Sustainable Community Development Initiative

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