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Industry makeover; With much to lose, or gain, Greater Cincinnati manufacturers get creative

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Jerry Stenger's local metal-finishing business faced threats from the usual 21st century suspects: off-shoring, oil prices and a struggling domestic auto industry that uses his services. So he turned to something new - biodiesel fuel - to remain viable.

"I wanted something I could rely on," said Stenger, owner of Mechanical Finishing Inc. The 16-year-old firm learned to convert used cooking oil to the eco-friendly fuel and soon will be producing 3 million to 5 million gallons a year at its Elmwood Place plant.

Biodiesel started as a way to save on the costs of running burners and cleaning equipment and operating a fleet of trucks. Now Stenger is banking on renewable energy as a saving grace.

He's not alone. It's been one challenge after another for manufacturers. They've lost work to faster, cheaper overseas facilities. Jobs have been replaced with automation. And they've struggled to find and keep skilled workers.

As oil and raw materials prices rise, local manufacturers must eliminate cost where they can.

So comes the green movement, threatening the biggest upheaval many have seen. With more stringent environmental regulations, mandates from the supply chain and eco-conscious end users, manufacturers must evaluate the environmental impact of nearly every aspect of business and drastically reform.

It's these companies that use the most energy, emit the most pollutant gases and release the most contaminants into our water ways. They also ultimately control how environmentally friendly the products we use actually can be.

"Industry by far has the most impact from consumption to production," said Nabil Nasr, director of the Golisano Institute for Sustainability at the Rochester Institute of Technology in New York. "They are under more pressure than anyone because they do the most damage."

That's particularly true in Cincinnati. There are 1,500 manufacturing companies, employing 100,000 - 7 percent of Ohio's manufacturing and 9 percent of its industrial work force. Cincinnati ranks fifth nationally for the number of manufacturing jobs, according to Manufacturing News Inc.

Higher costs, lower sales

Oil prices have more than doubled in a year, and overseas demand for materials like copper and iron has pushed prices to record highs. Firms also must cut costs to make up for lower sales in a poor economy.

At Cognis Corp.'s oleochemical plant in St. Bernard, energy costs and shipping prices for its chemicals, used in soaps, shampoos and cleaners, have skyrocketed and forced it to pursue eco-conscious measures.

"We're looking for ways to keep the company very profitable," said spokeswoman Kathy Bollmer. Energy efficiency promises long-term savings, so Cognis sped up its equipment maintenance schedule, bought a pricey boiler system and found a way to trap steam and recycle it.

Not even these measures are enough to meet increasingly stringent local rules from the Environmental Protection Agency.

Because Hamilton, Clermont, Butler and Warren counties are out of compliance with EPA standards for ozone and particulate matter (powdered dust, soot) emissions, manufacturers must add environmental controls or change the formulation of products.

"Emissions are a threat to human health - in many cases, the standards we have are not even sufficient," said Brad Miller, permits and enforcement section supervisor for Hamilton County's department of environmental services, which enforces EPA standards. Mandates get tighter as scientists discover more risks with byproducts.

Smaller companies in the paint or coating industry are for the first time being regulated for carcinogen use. The Metropolitan Sewer District is cracking down on Ph reporting.

"Companies are very anxious," said Bonnie Pray, an environmental compliance specialist with the county. "It means a lot of time and money regardless of whether it applies to them."

She expects the EPA to mandate a reporting requirement for carbon dioxide and greenhouse gas emissions by mid-2009.

At companies like NuVo Technologies in Hebron (page 64), new European Union restrictions are forcing reformulation of products using hazardous chemicals. The EU's 2006 RoHS Directive (Restriction of Hazardous Substances) limits levels of substances in electronics made or sold within its borders. California recently adopted them, and other states are considering mandates. The EU's REACH (Registration, Evaluation, Authorization and Restriction of Chemical substances) initiative, begun in June 2007, requires documentation of the quantity of hazardous materials in chemicals.

The Wal-Mart trickle-down

Retailers like Wal-Mart are taking notice. It announced it would grade electronics suppliers on energy efficiency, hazardous substance reduction, ability to recycle and package size. It also set a goal to reduce the carbon footprint of its supply chain by 25 percent over three years. And it plans to reduce packaging used by suppliers by 5 percent between 2008 and 2013.

"Wal-Mart's consumers are us, and we want to live in a nice, safe place free of pollution," said Mary Beth Holley, who leads **TechSolve's** Environmental Compliance Collaborative. "(This) will force more companies to embrace green."

Wal-Mart's requirements have filtered to Fairfield-based Color Resolutions International (page 64). Because Wal-Mart often requires suppliers to ship in the packaging that goes on shelves, the firm has formulated inks to print messages on those, and it's replacing oil in its inks.

For manufacturers in the construction industry, like gypsum drywall-maker Lafarge in Silver Grove (page 63), the U.S. Green Building Council's Leadership in Energy and Environmental Design standards drive change. Because owners earn LEED points based on the recycled products included and on overall environmental impact, they've put pressure on manufacturers to change the makeup of products. Lafarge uses the byproduct of Duke Energy's coal-burning process to make gypsum, saving the impact of mining the raw material.

"The lifecycle now goes all the way back to material extraction and assembly," said Alan Warner, an architect with GBBN Architects and the chairman-elect of Cincinnati's chapter of the USGBC.

The pressure is on, but going green can be a pricey up-front investment. Some companies hire consultants. Others allocate resources to equipment upgrades. Product development costs money, too, because it requires companies to pay employees to innovate rather than produce for a client. And reformulating products with new materials can add to a budget.

But opportunities abound for firms like Covington-based Atkins & Pearce, the longtime textile manufacturer that has deployed a product development division to create textile solutions to environmental problems (page 63). Entrepreneurs like car racing fan Kevin Brun have been inspired to start businesses. He made a deal with NASCAR to recycle tires after races, selling thousands of beverage coolers made from them.

Not to mention that companies can earn a powerful marketing tool by receiving green certifications like EnergyStar, LEED, Green Seal and EPEAT, by participating in programs like Hamilton County's Go Green Challenge or by competing in EPA's national Presidential Green Chemistry Challenge Awards Program.

Then there's Mark Derrick whose Perry & Derrick Paints collects thousands of gallons of unused paint every year, remixes it and puts it back on the shelf.

"It's a true example of the environmental movement," said Holly Christmann, program manager with Hamilton County's Solid Waste District. "And it's going full circle right in our own back yard."