

## SECTION B NKY LIFE

Editor: Mark Lewis, [mark@enquirer.com](mailto:mark@enquirer.com), 502-528-5555, 88 Columbia, Louisville, KY 40202  
Phone: 502-528-5555  
Address: 88 Columbia, Louisville, KY 40202

### ■ CLOSE THE LOOP

# Plastic kept out of landfill

## Firm reuses every part of ink cartridge

By Mike Rutledge  
[mrutledge@nky.com](mailto:mrutledge@nky.com)

**HEBRON** – Most companies in the world produce lots of garbage. But one business with its North American headquarters in Hebron actually makes it vanish.

Australian-based Close the Loop Inc. has processes, using its large, patented “Green Machines” to break apart printer cartridges – for ink-jet and laser printers – and toner cartridges into their component materials so they can again be manufactured into useful products:

■ Various plastics are shredded into flakes and then cleaned so they can be re-used to make printer cartridges. Or they can go into the company’s patented process for creating rot-and-insect-resistant “elumber” that can be used to make recycled picnic tables or park benches, and boards used in landscaping.

■ Small metal pieces are smelted to remove contaminating plastics and are recycled.

■ Foam from inside the cartridges is converted into lower-grade carpet backing.



Photos by Carrie Cochran/The Enquirer

Even the foam is recovered from inkjet cartridges and re-used. Adam Wooton is a machine operator at Close the Loop in Hebron, which uses a patented technology to recycle all parts of the cartridges.



Used-up cartridges go into the “Green Machine” to be separated and the components re-used. Many people throw their old cartridges in the trash, unaware that they can be kept out of the landfill.

Or it is used to fill “spill kits” – pillows stuffed with the foam that can be used to absorb chemicals or oils when spills threaten to pollute roads, waterways or the land.

■ Leftover ink is transformed for use with fountain pens.

■ Extra toner powder is reused as a colorant for plastics.

This is “not simply recycling, but using

all of those natural resources over and over again,” said Close the Loop’s Australian founder, Steve Morriss. “It allows zero waste to landfill, and zero incineration.”

Actually, Morriss conceded, a small amount of plastic that contaminates the separated metals does become waste – less

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# Recycle: Don't throw out that cartridge

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than 3 percent of plastics – but he believes as cartridge construction and Close the Loop's reclamation technologies improve, the process will hit the zero-waste goal.

Each month, several hundred thousand cartridges arrive from across the nation at Close the Loop's Meridian Place plant inside a 128,000-square-foot former distribution warehouse.

When in full operation it will be able to accept more than 3 million cartridges a month. In a few years the company hopes to add another site, probably on the West Coast, said Jim Tocash, who heads the company's North American operations from Hebron.

Close the Loop, which is privately held and is not required to disclose its financial information, has proven its business model by being profitable over its eight years in Australia, Morriss says.

"We're profitable in Australia and we're in start-up phase in the USA," Morriss said in a recent telephone interview from Melbourne. "The Close the Loop model is the way of the future."

The company teamed with a U.S. firm to model the carbon savings of its material-recovery process, Tocash said. They learned that for every pound of cartridges Close the Loop processes, about 2½ pounds of carbon dioxide production is eliminated.

"We will be trading carbon credits," Morriss predicted.

There's plenty of growth potential, based on the number of cartridges used and discarded in this country each year.

Some 600 million cartridges are used here yearly, and it takes about a gallon of oil to make each one. About 80 percent wind up in



**At Close the Loop,** employee Joshua Jones tests the circuitry in used inkjet cartridges. If that component is still functional, it can be sent back to the manufacturer to be refilled. If the metal part is unsuitable for reuse, it can be separated from other components and recycled.

The Enquirer/  
Carrie Cochran

landfills – about eight per second, according to Close the Loop – and more than 2 billion pounds now fill North American landfills, leaking ink and toner.

Cartridge disposal is growing 12 percent each year, and it takes a cartridge 450 years to decay.

Tom FitzGerald of the Frankfort-based environmental advocacy group Kentucky Resources Council said he wasn't familiar with Close the Loop itself, but praised efforts by such companies, which can help this country catch up with recycling efforts in Europe.

"I foresee a time when we will actually be going back and mining our landfills because we have thrown away so much over the years," FitzGerald said.

As workers last week hand-sorted cartridges they pulled from 3½-foot-tall, 4-foot-wide "gaylord boxes" – the cardboard containers used to transport heads of cabbage, carrots, brocco-

li and celery – a large "Green Machine" rumbled in the distance.

That patented machine, which is painted mostly green, but with some blue and yellow parts, cracks cartridges, runs them through a centrifuge to remove ink, then separates bits of metals from shredded flakes of foam and plastics.

Close the Loop doesn't simply reclaim the materials. It also works with printer manufacturers such as Lexmark, Toshiba, Ricoh and Canon, retailers like Staples, and some offices that consume many cartridges to collect them and transport them to Hebron. The firm has about 50,000 collection boxes in Australia and Asia, plus an undisclosed, growing number in North America.

The company has 10 permanent full-time employees plus another 10-15 temporary employees depending on the workload. When fully staffed, it should have 60-80 workers.

This is not a program used by charities and others to recycle cartridges. That uses a different business model, in which charities collect cartridges and sell them to brokers, who in turn sell them to re-manufacturers.

"There's a demand from the customers to do this," Tocash said. He notes the cartridges look so durable that customers feel it's especially wasteful to discard them.

Companies likewise are becoming more environmentally conscious, Morriss says. Now they not only focus on cost, service and quality, but many also now announce in annual reports the carbon production their businesses cause, in their efforts to curtail global warming, he said.

Close the Loop also works with cartridge manufacturers to advise them how to build and use easier-to-reclaim cartridges and materials. That consulting work is an increasing part of the company's business, Morriss said.

For more information, go to [www.closesthe-loopusa.com](http://www.closesthe-loopusa.com).

When Northern Kentucky attracts companies from other regions or countries, it not only brings different technologies, but also "a different mindset – it brings an infusion of new ideas and processes," said Bob Green of Northern Kentucky Tri-ED, which works to recruit new companies to the area and keep existing ones growing locally.

"When you get a downturn in the economy like this, especially with manufacturing, one thing you've got to look at is 'How diversified are we?'" Green said. Companies like Close the Loop improve that diversity, he said.