

## **Guiyu Revisited: Exposing the Fraud...18 Months Later**

By Tricia Judge

Guiyu, China, literally takes my breath away. While standing in front of a pile of discarded toner cartridges nearly as tall as I am, I struggle with the smoke from a nearby melting operation. It burns my eyes and throat, making breathing laborious. Less than a hundred feet away, "e-waste" is being burned, and a white, fog-like cloud of smoke envelops everything, limiting visibility.

### Touring an Environmental Nightmare

E-waste is imported daily into this small town in China. I am here on a Saturday, but nevertheless the town's industry is busy as computers, monitors, keyboards, inkjet cartridges, toner cartridges and printers are taken apart, scavenged and destroyed. As Hip Kiu's Colin Davison says, "There are no weekends and holidays in Guiyu." The city's poor economy has led it to become the world's seven-day-a-week center of e-waste "recycling."

Heaps of empty cartridges line the streets and riversides after being scavenged only for their toner. Once the toner is swept out by fingers or paintbrushes, the cartridges are burned along with other e-waste materials or are discarded along the Lianjiang River.

This type of recycling and dumping practice has rendered local drinking water not potable; the river has 200 times acceptable levels of acid and 2,400 times acceptable levels of lead. Many residents have developed respiratory problems. A local school survey found that one out of 10 students had severe respiratory problems.

The scavenging that takes place in Guiyu is not new. In addition to the article that was published in the August 2002 issue of Imaging Spectrum, "Exposing the Fraud: Recycling Programs Gone Wrong," scores of other periodicals have addressed the horrors here and demanded change. The Basel Action Network has issued a 54-page report, "Exporting Harm," written with Silicon Valley Toxics Coalition and other organizations, to raise international awareness of the problem. Laws in the United States and Europe have attempted to address the issue with mixed results.

### A Town's Choice: Poverty or Poison

The situation remains vile...and perhaps has even deteriorated since Davison's last visit on behalf of Imaging Spectrum in June 2002. With a furrowed brow, he pointed to a pile of inkjet cartridges and a printer scavenging operation, saying, "That's new."

In response to the international exposure and pressure, China has banned the import of such waste. But the government has neither the resources nor the incentive to enforce the ban. The government has no way to provide for the Guiyu laborers. The residents here have to choose between utter poverty and pollution levels akin to poisoning. And the net gain for the average laborer? Roughly \$1.50 per day.

Toner cartridges comprise a large portion of the town's problems. Many of the cartridges here are virgins, cartridges that could easily have been remanufactured. Instead, they are destined for a pyre. And they come from familiar places like Los Angeles or Chicago, as identified by tags and plates on some of the debris. How did they end up here? Because someone intended to have

them recycled.

## Recycling Programs Gone Wrong

A well-meaning company or consumer took a cartridge, computer or CRT (monitor) to a recycling center. Or, in the case of cartridges, perhaps they mailed it to a recycling center in a box or envelope provided by the OEM. Then that cartridge and many thousands of its brethren soon were bound for China, India or South America.

“There are two basic types of so-called recyclers out there,” explains BAN Coordinator Jim Puckett. “There are the recyclers that actually want to reuse, remanufacture, or if necessary, recycle waste safely in the country where it becomes a waste and avoid exploiting desperate or captive labor forces. They want to recycle the whole computer and ensure that each component is processed as environmentally and socially responsible as possible and returned to the commodity market.”

“Then there are the vast majority of others that will buy and sell computer waste for whatever purpose and to whatever destination to maximize profit for minimal labor. Because doing things the irresponsible way—exporting toxic waste to poor communities in Third World countries—is still perfectly legal in this country, the latter are unfortunately making it very difficult for the responsible players to exist.”

According to Puckett, the trade associations that are supposed to promote responsible recycling are actually perpetuating the bad behavior. “Remarkably, the recycling associations, such as International Association of Electronic Recyclers (IAER), the Institute of Scrap Recycling Industries (ISRI) or Bureau of International Recycling (BIR), which might lobby for setting a higher standard of recycling to avoid the horrific reputation recyclers are getting, refuse to limit their membership base (funding source),” Puckett said. “They continue to accept waste dumpers and the waste exporters into their ranks, and even fight legislation to better control waste exports.”

So, legislation is perverted and legislators are misled; laws are passed that do nothing. “The result is that the good guys are not being supported by the government,” Puckett said. “What’s worse, they are not even supported by their own recycling associations.”

A year ago, Puckett indicated that it was all but impossible to find a recycler that was not exporting at least some of the products it was charged with recycling. Luckily, he has discovered Lauren Roman, vice president of United Recycling Industries in West Chicago, Ill. Roman’s company has invested heavily in e-waste recycling, and she is livid about the failure of the government to stop her illicit competitors.

She said that the government refused to intervene, because government officials believed that there were insufficient recycling resources to process the load of domestic e-waste. “They claimed that the U.S. electronics recycling industry couldn’t handle the job, and that was ridiculous. There is not one electronics recycler in this country that is at capacity,” she said. “We have 300,000 square feet devoted to this recycling. We have upgraded our monitor processing line, and through efficient shredding and separation, we produce clean aluminum, clean steel, glass, etc. We have 100 percent recovery.” And that means no landfills are filled, and no waste is exported.

“We can do 6,000 monitors in one day,” she said. “We’d be running this line ‘24/7’ if the monitors were available. And we are just one company.”

Why are the monitors and other e-waste not finding their way to legitimate recyclers like United Recycling Industries instead of heading for Asia? Because of the economics of illicit trade. “You can recycle electronics domestically, but it affects the price,” she said. “You can sell a broken

monitor (to an exporting recycler) for a couple of bucks, or pay \$6 to \$12 per monitor to have it recycled properly domestically.” Except for the price, the consumer will never know if he has sold that monitor for export. “The recycler will present that consumer with a certificate of recycling and throw [the monitor] on a container and make it disappear for 10 percent less.”

The government has only exacerbated the problem. The first version of CRT recycling legislation promoted by the EPA did not address exporting. “That legislation made it worse, not better,” Roman said.

#### What Motivates OEM Recycling Programs?

Recycling is certainly a laudable goal when the recycling is legitimate. Printer OEMs, such as Hewlett-Packard, Xerox and Lexmark, all have programs that purport to make honest efforts to recover and recycle their products, including the cartridges.

Clearly the recovery and recycling of these cartridges by the OEMs is a desirable outcome. But do their recycling programs—intentionally or otherwise—involve the recycling centers and brokers that simply export the wastes to developing countries? Roman described one OEM representative who was present at a trade association meeting and callously stated that his company would continue to export e-waste because it made good business sense and was not illegal.

But price is not the only issue. “If you take exporting out of the picture, then most people will pay extra money to recycle the e-waste rather than see it put in a landfill,” Roman continued. “As long as ‘recyclers’ are saying that they have recycled it, well-meaning companies feel warm and fuzzy about doing the right thing. There is so much misinformation out there. It has got to stop.”

Every OEM proclaims the benefits of their cartridge recycling efforts, but the real motivation behind these programs is as murky as the skies and waters of Guiyu. Although environmental benefits may be part of the plan, each OEM is deeply committed to recovering its toner cartridges for another more corporate-minded goal: greed.

New cartridge sales bring more to the bottom line, especially now that the printers are less expensive and less profitable. And keeping the cartridges out of the hands of third-party remanufacturers is essential to boosting the sale of new cartridges. Remanufacturers are often the only source of competing cartridges.

#### The King of Cartridge Culprits: Prebate

Each quarter, Lexmark releases yet another financial statement reinforcing its “supplies-driven” profitability. It is making more dollars from the sale of cartridges than the sale of printers.

And how environmentally friendly are its programs? Lexmark’s Prebate program (now known as its environmentally friendly “return” program) gives a discount at the time of sale if the customer agrees to return the cartridge to Lexmark, or at least agrees to not give it to a remanufacturer. So, a customer has already been rewarded for buying this “environmentally friendly” product, and any incentive to recycle it is long forgotten.

When the cartridge is spent, the customer may find it inconvenient to return it to Lexmark. Still wanting to do the right thing, the customer attempts to sell or give it to a remanufacturer. The cartridge’s Prebate restrictions forbid its being remanufactured, so the preferable reuse option is foreclosed.

Lexmark has testified in its lawsuit with Static Control Components that it gets back 50 percent of its Prebate cartridges, and that those cartridges are then remanufactured or recycled by Lexmark.

This begs the question: Are Lexmark's recycling partners involved in legitimate recycling?

And what about the other 50 percent of the cartridges sold by Lexmark under the Prebate program? They are condemned to landfills, as the Prebate restrictions mandate that they cannot be remanufactured by a third party.

If a remanufacturer risks legal action by remanufacturing the Prebate cartridge, it runs into the chip problem. The chip acts as the enforcement device for the Prebate restrictions. It will determine if the cartridge has been remanufactured and will shut down the printer. Aftermarket chip solutions have been developed by several aftermarket vendors, one of whom has been sued by Lexmark for their ingenuity.

To add even more insurance that the cartridge will not be remanufactured, Lexmark frequently changes the firmware in the printers through "upgrades" and during routine service maintenance. The firmware acts like a virus and renders many viable aftermarket solutions worthless.

Therefore, a Lexmark customer wanting to remanufacture the cartridge is frustrated at every turn. His only option other than a landfill is to return the cartridge to Lexmark and pray that it is not bound for Guiyu.

And What About the Other OEMs?

As for the cartridges that do make it back to the OEMs—where do they end up? All cartridges are made of complicated components and industrial-grade plastic. They are not amenable to meltdown recycling nor are they biodegradable. The plastic will not even begin to decompose in a thousand years. If the OEMs recover hundreds of thousands of cartridges as their programs claim, those cartridges have to go somewhere. Of these OEMs, only Xerox openly remanufactures its products.

According to Hewlett-Packard's own documentation, "HP LaserJet toner cartridges are newly manufactured to its own specifications and contain an average of 7 percent or less of recycled content (non-critical parts) across the entire line." Therefore, not much of the new cartridges are made up in appreciable part by the old cartridges. And the need to sell new cartridges is far more compelling than the desire to use up the old.

The Inevitable Conclusion...

Back in Guiyu, as the day's shipment of cartridges was unloaded from a semi-truck onto the street, a discerning eye could see that these were virgin cartridges. And there were a lot of them. Where could they have come from? It makes no sense that these cartridges were rounded up on an individual basis. There is no economic efficiency to such collection. These cartridges must have come from a source that routinely collects virgin cartridges—lots of them. The inevitable conclusion is that cartridges bound for return to OEMs are ending up in places like Guiyu.

Do not bother asking the workers in Guiyu. They would proclaim that they had no knowledge of the source of the cartridges. And since the cartridges represent revenue, they would want to keep them coming. Even if they knew where the cartridges came from, they would not tell.

Even to an untrained observer there could be little mystery, especially when color toner was spilling from several sites and inkjet cartridges were being sorted on the street. OEM brands of origin, including those manufactured by Lexmark, Hewlett-Packard, Canon and Xerox, were all

present.

#### A Global Problem Answered in Europe, But Not in California

The answer, Puckett said, lies in closing off the cheap and dirty outlets for waste at the source. "That means real environmental costs for properly managing end of life should not be avoided by dumping this waste in local landfills, in developing countries or through the use of prison labor. The Basel Convention says that each country should manage its own wastes. Only by closing these dirty outlets will we be able to begin to build a viable recycling infrastructure in this country and ensure that the waste is managed in the best way possible. Next, we need to place the financial burden for doing this not on ratepayers or taxpayers, but on manufacturers as has been done now in Europe. In this way, we will finally have clear drivers for green design, as manufacturers will then have a powerful incentive to reduce end-of-life costs through minimizing toxic inputs and designing products for ease of recycling."

The Basel Action Network has denounced as "worse than nothing" and a "travesty of environmental justice" the final legislation produced this session in the California Legislature that was meant to address the burgeoning electronic waste crisis. Senate Bill 20 has been the subject of intense debate for over two years. It was originally meant to make the electronics industry more responsible for managing its products at end of life. Additionally, it was supposed to address the revelation that about 80 percent of electronic waste was finding its way offshore to Asian destinations such as China, where it was causing massive pollution and occupational health problems. However, according to BAN, SB 20 fails absolutely on both counts.

"SB 20 effectively absolves producers of all responsibility, since the retailers collect the fee, the state-managed Electronic Waste Recovery and Recycling Account manages the money and local governments manage the collection," Puckett said. "With respect to export, SB 20 is full of loopholes which will allow exporters to prosper. Even if we were able to close all of these loopholes, exports can proceed with unenforceable promises that the recycling will be done in an environmentally-sound manner in developing countries."

"Not only does the bill fail miserably to make producers responsible for cleaning up their act and producing less toxic electronic waste, but also we are horrified to observe that last-minute industry lobbying has created legislation that actually will pay waste recyclers to sweep out California's electronic waste to the poorest communities of the world via the back-door of export," Puckett said. "Perversely, more waste than ever before could be exported, and this time it will likely be exported with the blessing and funding from the great state of California."

At the other extreme, Puckett is encouraged by Europe's WEEE Directive. "It is just beginning to be implemented, but we know it works because many European countries already had similar national programs prior to the EU directive. Likewise, Europe has already implemented the Basel Convention Ban Amendment to ensure that the greater amounts of wastes diverted from landfills in Europe by the WEEE Directive will not simply be exported to Eastern Europe or Asia."

The OEMs are fighting reform, but are doing so in an inconsistent manner. "Many of the very same companies that have accepted these reforms in Europe are fighting the very same good ideas in North America," Puckett said. "It is hypocrisy and irresponsible behavior that will ill serve electronics manufacturers in the long run."

In the United States, Roman has hopes that efforts to educate government officials through lobbying will eventually pay off in the form of laws that establish sound management standards for electronics manufacturers. The new CRT regulations are due out this year. Under these new regulations, recyclers exporting to other countries may have to provide documentation from the

receiving country that the shipment was acceptable. "That would knock China off the block because imported waste is banned in China," Roman said. "But it would end up in an unregulated country. Still, it is a start."

To Recycle or to Remanufacture: What is the Answer?

The debate of whether it is better for the environment to recycle or remanufacture toner cartridges has raged for years between the OEMs and the aftermarket. Remanufacturers argue that reuse is the highest form of recycling. OEMs insist that their recycling efforts are more productive at a cartridge's end of life, as all pieces of the cartridge can be converted into some new, useful item. Certainly, the recycling that places a cartridge's end of life in Guiyu is anything but good for the environment.

As the issues of legitimacy rage in the recycling industry, the dilemma of recycling versus remanufacturing will continue to be unresolved in the cartridge industry. To the poor people of Guiyu, China, the answer is crystal clear. However, their skies, river and future are not.

Author's Note: BAN is working to get the United States to ratify the Basel Convention and its Amendments, which will make the exporting of toxic e-waste illegal. In the meantime, BAN and the Silicon Valley Toxics Coalition have developed an Electronics Recycler's Pledge of True Stewardship in order to be able to direct consumers to recyclers that refuse to dump toxic materials in landfills or to export it. All recyclers and toner manufacturers should consider signing this pledge. The pledge and a moving videotape on Guiyu are available for donation at [www.ban.org](http://www.ban.org), as is a free copy of the BAN report. We also thank Colin Davison and the folks at Hip Kiu for seeing us safely to and through Guiyu.