



## Urban mining: making profit from electronic waste

by [Steve Louie](#)  
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As a constant stream of new tablet computers, smart phones and flat-screen televisions inundates the market each year, the question becomes: where will the old stuff end up and what will happen to it?

Electronic Recyclers International Inc. seems to have formed a viable solution. John Shegerian, CEO of Fresno based ERI, has grown a multimillion dollar business around recycling electronic waste – a budding industry he terms “urban mining.”

ERI has seven recycling centers across the U.S., including a facility in Indianapolis, which services Illinois and the greater Midwest. The company employs a combination of manual labor and machine power to separate and shred televisions, computer monitors and cell phones. Some components, like the cathode ray tubes from monitors, need special care because they contain toxic elements.

Workers then separate the raw plastic, glass and metal for sale to smelters. ERI also fixes and sells some products for reuse, but it's a relatively minor business.

“E-waste is the fastest growing solid waste stream in the world,” said Shegerian in a phone interview, adding that ERI’s sales increased 33 percent in 2010 compared with the year earlier, and that sales are up 38 percent in 2011 to date.

ERI's profits were \$45 million in 2010, and Shegerian expects profits to leap to \$65 million in 2011, then to \$100 million in 2012.

The push to recycle has also spread to other companies like Best Buy Co. Inc. and Dell Inc. that sell consumer electronics. They have set up programs to collect old products for recycling at their stores. “The consumer electronics industry recycled approximately 200 million pounds in 2009, and we estimate that figure rose 50 percent to 300 million in 2010,” said Tim Doyle, a representative of the Consumer Electronics Association, in an e-mail.

ERI has grown rapidly since its inception in 2002, as the amount of new devices available has exploded “When I got into this business there was no iPhone, there was no Kindle, there was no iPad and no 3-D television, so think of what’s happened even in a mere six years,” Shegerian said.

“Roughly speaking, our first month of business we recycled 10- to 20-thousand pounds of electronics, second month we did 30- to 50-thousand, third we did 75- to 100-thousand pounds – it grew massively,” Shegerian said.

In 2010 ERI averaged 10 million pounds of recycled electronic waste per month, or 120 million pounds for the year. So far in 2011, ERI has recycled half again as much, roughly 15 million pounds per month, Shegerian said. That would lead to an estimated 180 million pounds this year.

When most people learn about the toxic elements contained in cell phones, computers and televisions, they want to do the right thing, said Shegerian, adding that sensitive personal information can also be extracted from old devices. He stressed the importance of properly destroying devices that store personal information.

“The point is keeping this stuff above ground, and then getting it appropriately to smelters,” Shegerian said.

In the last few years, as the prices of industrial and precious metals have climbed, ERI has attracted two major strategic partnerships with global metal companies. In December 2009, LS-Nikko Copper, a South Korean copper smelter, took a minority stake in ERI, and in November 2010 the two companies extended their relationship as LS-Nikko Copper invested “millions of dollars” in ERI.

“The relationship also provided a home for the massive volume of commodities that come from ERI’s electronic waste recycling facilities,” according to a joint press release, Nov. 16, 2010.

Alcoa Inc., the huge New York-based aluminum producer, announced March 2 that it also had become a minority investor in ERI. “Through this new partnership, Alcoa will bring its expertise in recycling to the growing challenge of e-waste, enhancing the role aluminum plays in making electronics more sustainable,” wrote Alcoa representatives in a press release. They said the content of aluminum in laptop computers is expected to increase 30 percent by 2013 compared with 2010.

In the Midwest, ERI is focused on launching its new recycling center in Plainfield, Ind., which will replace the current facility in Indianapolis. The company says the new facility will be “massive” and will service Illinois, Ohio, Indiana, Kentucky and Missouri.

Along with keeping landfills free and providing smelters with raw materials, the new facility will provide new “green collar” jobs, adding to the more than 400 employees at ERI. According to Shegerian the Plainfield facility will be fully functional by the fourth quarter of 2011.

Still, crossing state lines presents challenges for ERI, because states have different laws that govern electronic recycling.

“How do you make sure you adhere to each state law even though they are all different, and how do you make a profit in every region with the laws being different, and federal law being even more different?” Shegerian asked.

California’s electronic waste recycling act charges consumers a fee ranging from \$6 to \$25 when they purchase certain electronic products. According to the website of Californians Against Waste, an advocacy group, that money goes into a state fund that provides reimbursement of 28 cents per pound to recyclers. An additional sum of 20 cents per pound goes to the entities that collect material for recycling.

Hypothetically, if the recycling subsidy were spread across ERI’s entire capacity for 2010, it would

account for roughly \$33.6 million of 2010 revenue.

However, California is the only state with an up-front recycling fee law. Illinois law places the responsibility of recycling on producers by requiring manufacturers to register with the state in order to sell certain products, and the registration includes an annual fee, which is indexed for inflation. The fee in 2010 was \$5,045.

The difference in state legislature makes ERI's outlook across state lines variegated. Expected profit margins are likely different in many states, including those without electronic recycling laws in place.

"Electronics recycling is a national issue that requires a federal solution," wrote Doyle of the Consumer Electronics Association. "The current patchwork of state laws costs the electronics industry hundreds of millions of dollars a year, adds unneeded complexity and confuses consumers. There's an overwhelming need for a harmonized approach"

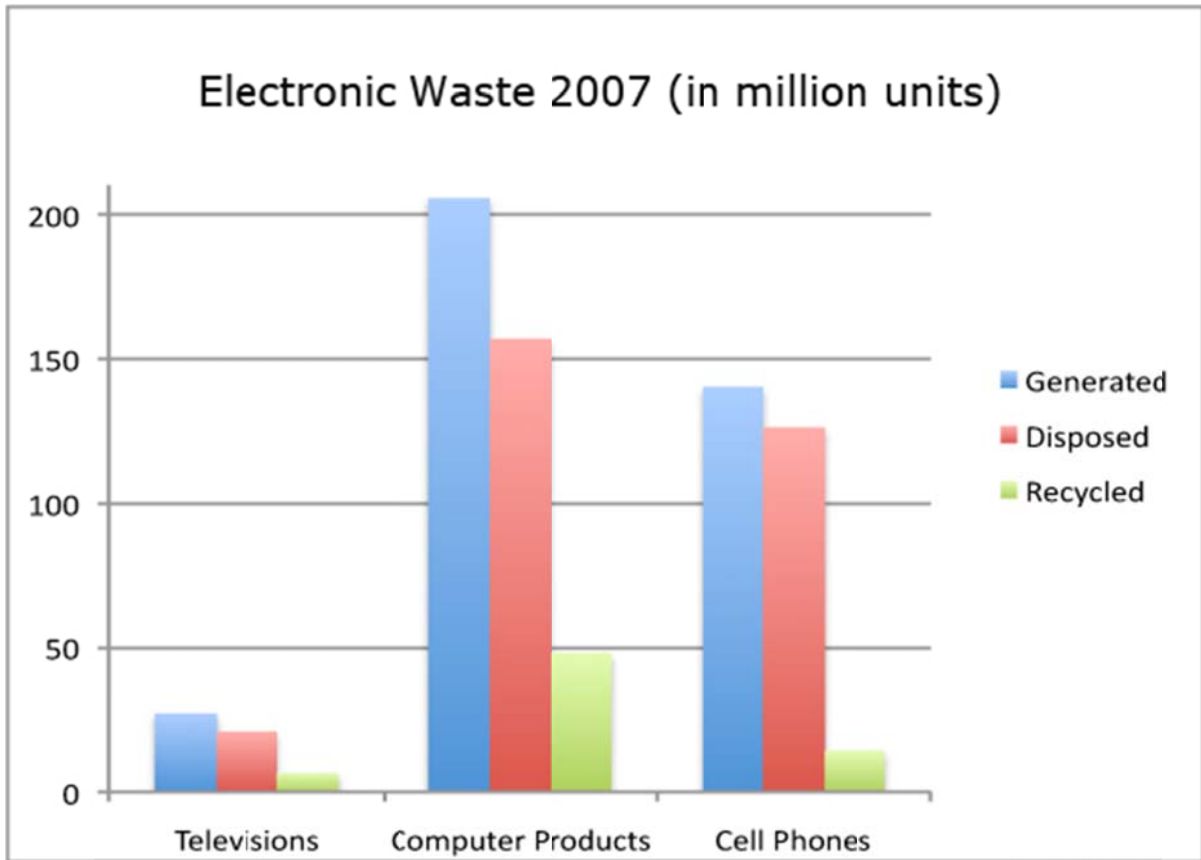
Another question is whether legislators will look to cut down on recycling programs in states with troubled budgets.

According to Shegerian, this provides an opportunity for the private sector to innovate and provide tools that will support consumers in their recycling efforts.

ERI recently developed an iPhone application called My Recycle List. "It's a free tool that governments can put on websites when they have to cut budgets," Shegerian said. "It's a free tool that will help people recycle anything, in any zip code, in the U.S."

The application, which can be downloaded from Apple Inc.'s App Store, directs consumers to nearby locations based on the type of material being recycled.

The legislative landscape will likely experience further change as states continue to introduce new laws controlling electronic waste, but for now ERI is focused on its global partnerships, sustained growth and environmental sustainability. The numbers speak for themselves.



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