

Urban mining grows as gold demand and number of cast-off electronics rise

By Bruce Finley

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The disassembly-line workers hammering, drilling, snipping and shredding in a north Denver warehouse each morning are pioneers in new urban mining.

End product: gold, silver, copper, aluminum.

Men wearing Kevlar-plated arm gear and safety goggles rapidly pick the valuable bits from cast-off computers, TVs, printers and home appliances that otherwise would be tossed into landfills or shipped overseas — often with still-retrievable stored data.

Traditional mining to extract minerals from deep underground pays as little as \$35 a month and releases toxic pollution that poisons people, said Noah

"Going under the ground, you never know if you will come out. This is better for the environment," Amoah said Thursday as he pulled up a circuit board glinting with gold.

Today he earns \$10 an hour at the 75-worker Metech Recycling plant — one of two electronics recycling businesses in north Denver. At Metech, a second shift is planned, with 15 more workers each harvesting 1,200 pounds of materials a day, executive vice president John Miller said.

"There's gold here," Miller said. "We already took it out of Mother Earth once. Why would we want to throw it back into a landfill?"

Over two years, jobs have grown here and at 30 other certified "e-steward" plants nationwide. Healthy commodity prices — gold goes for \$1,700 an ounce — make this mining more profitable. Traditional hard-rock mining of the minerals needed to make computers, smartphones and other gizmos is becoming more complicated, with host governments and communities concerned about environmental costs.

U.S. Environmental Protection Agency officials are encouraging this alternative.

"Why wouldn't we do this?" said Jim Martin, the EPA's regional administrator, who recently checked out the Electronics Recycling International plant nearby, where 25 people work. "Building a mine these days is a process that takes years, a process that requires us to build in all kinds of safeguards to make sure we're protecting water and air quality. This is far cheaper, faster and easier."

But Colorado lacks a law to match those in 17 other states that prohibit e-waste in landfills — measures that drive more material into recycling so that plants can expand.

Colorado Association for Recycling members today were planning to review draft legislation they're hoping state lawmakers will embrace.

Colorado recyclers also are urging state government agencies to send e-waste to local companies instead of selling it on pallets to brokers who then export whole computers for break-down abroad.

The stuff sent abroad often ends up in low-income communities where "they don't have the right tools," ERI president John Shegerian said. "They burn off the plastics. That throws noxious fumes into the air. They'll create all sorts of chemical mixes to try to get the metals off. Typically there are human-rights violations."

The workers in U.S. plants wear masks when appropriate — around batteries, for example — and can pick apart a laptop in less than five minutes, separating copper, circuitry and aluminum.

"Once you learn how to take it apart, then you build up your speed," Metech worker Chris Buckley, 41, explained.

The salvaged materials are hauled away to be melted in smelters for eventual reuse in manufacturing.

No major metal smelters are available in the U.S. because of environmental controls. Smelting companies in Canada, Denmark and Japan capture that part of the growing business.

Around Denver, corporations, universities and hospitals send e-waste to the new recyclers. Because of concerns over private data, hard drives are shredded.

Miller said black markets pay \$1 per Social Security number, but the cost to organizations that reveal them can be much higher.

A local university recently discarded computers that contained hundreds of thousands of names, Social Security numbers and other information, Miller said. The mistake cost the university about \$500,000 to deal with the consequences by sending warning letters to students and former students.

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