

Laptop's Dirt

By [BRYAN WALSH](#)

Coal, steel, oil — we think of these old-economy industries, and we picture pollution. Smoggy skies, fouled rivers, toxic waste. As we make the transition to a new economy, we imagine that industrial pollution will become a thing of the past. Mobile phones, laptops, MP3 players — they conjure images of spotless semiconductor factories and the eternal summer of Silicon Valley where the digital economy was born.

But the tech industry has a dirty little secret: it has toxic waste of its own. Phones and computers contain dangerous metals like lead, cadmium and mercury, which can contaminate the air and water when those products are dumped. It's called electronic waste, or e-waste, and the world produces a lot of it: 20 to 50 million tons a year, according to the UN — enough to load a train that would stretch around the world. The U.S. is by far the world's top producer of e-waste, but much of it ends up elsewhere — specifically, in developing nations like China, India and Nigeria, to which rich countries have been shipping garbage for years. There the poor, often including children, dismantle dumped PCs and phones, stripping the components for the valuable — and toxic — metals contained inside. In the cities like the southern Chinese town of Guiyu, they work with little protection, melting down components and breathing in poisonous fumes. What can't be recycled is simply dumped, turning already poisoned rivers into toxic sludge. It's all done in the hope of earning a few dollars from the detritus of the clean digital economy.

Michael Zhao has seen the damage firsthand. A journalist connected with the Asia Society, Zhao traveled to Guiyu — which processes up to 1 million tons of electronic garbage a year — to film a documentary on the impact of e-waste. "I saw people putting leftover parts on coal fired stoves, to melt down the waste to get to the gold," he says. "It'd produce a reddish smoke that was so strong I couldn't stand there for more than a couple minutes before my eyes would just burn." (Hear Zhao talk about the e-waste on this week's Greencast.) Urban China is so polluted that few Chinese escape without some damage to their health, but Zhao says that local researchers have found that the children of Guiyu fare worse than their counterparts in nearby cities, suffering from respiratory illnesses traced back to e-waste.

Officially, this shouldn't be happening. The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal was established by the UN in 1989 to control the hazardous garbage flowing from rich countries to poor ones. The convention allows countries to unilaterally ban the import of waste, and requires exporters to get the consent of destination countries before they send trash abroad. But the United States, a prime source of e-waste and other toxic waste, never signed onto the treaty, leaving it weakened, and some of the destination nations — most prominently China — quietly allow the dumping to continue, for the money it brings in. At an international summit on the convention held last week in Bali, Indonesia, environmentalists and many poor countries insisted the agreement had failed, and pointed to the growth in e-waste as a main reason. "We are faced with the ugly truth that the Basel Convention

has been unable to accomplish even the prerequisite steps of addressing the inequities and exploitation made possible by globalization," Jim Puckett, director of the Seattle-based Basel Action Network, told delegates at Bali.

Much of the fault does lie with the U.S. and its technology companies, which export e-waste because it is cheaper to offload the problem on poor nations than it is to take care of the waste at home. "This is effectively long-distance dumping," said Achim Steiner, head of the United Nations Environment Programme. One solution is to promote recycling programs for old PCs and phones, as Dell has done recently, or try to reduce the amount of toxic metals used in those products, as Apple has done. The answer will almost certainly have to come from rich importers — for poor nations, the money that can be made off the e-waste trade is simply too good to abandon, despite the environmental and health costs.

What's certain is that if we don't act, the **e-waste** will continue to **pile up**, as we buy more electronic devices and the lifespan of those products grows shorter. If we could see the dumps of Guiyu, we might rethink the purchase of that new iPhone. "A lot of people may think electronic manufacturing is a clean industry, but it's not," says Zhao. "It's a dirty process." Just because we don't see the dirt, doesn't mean it doesn't exist.