

INTERNATIONAL
Herald Tribune

U.S. switch to digital TV raises specter of toxic dumping of old sets

By Erica Gies

Wednesday, June 4, 2008

SAN FRANCISCO: Exposé videos shot by monitor groups show what happens to most electronic goods at the end of their working lives: Shipped to India, China, Nigeria and other developing countries, they are deconstructed by "backyard recyclers" who hammer, chop, grind, chip and heat them into a potent, toxic cocktail.

Working with no protection, they are exposed to materials like lead, mercury, cadmium and brominated flame retardants that can cause intellectual impairment and damage almost every organ and system in the human body, including the brain, nerves and bones.

People of all ages are employed in this work, from young children to grandparents, earning as little as \$1.50 a day, according to Basel Action Network, a group that campaigns against recycling abuses. The parts that they cannot sell are burned in vast mounds, further contaminating their air, soil and water. The United Nations estimates that 20 million to 50 million tons of electronic waste are generated worldwide each year.

The Basel network and similar groups, including the Electronics TakeBack Coalition in the United States and Greenpeace, warn that a U.S. law ending analog TV transmission in February 2009 - enforcing a switch to exclusively digital reception - could lead to a megadumping of television sets.

The transition will primarily affect the 11 percent to 20 percent of households that rely solely on an antenna to receive analog broadcasts, according to a September 2007 report by the U.S. Government Accountability Office. An additional 5 percent to 27 percent of cable and satellite households have extra televisions that use antennas.

These users will not have to buy new TVs; they can instead buy a converter box, typically costing \$50 to \$90, although the government is offering coupons for a \$40 discount toward the purchase of a converter. But public awareness of the change seems limited. A January 2007 survey by the Association for Public Television Stations found that 61 percent of participants had "no idea" the transition was happening.

Advocacy groups are concerned that the public may not know about the converter boxes or understand how to get the coupons.

While cable customers will not immediately be affected by the 2009 change, they may be in 2012, when cable companies will no longer be required to send out an analog signal for subscribers who plug the cable directly into their TVs.

And the current level of TV disposals is not just the result of the mandated change; it also reflects falling prices for flat-screen and LCD sets.

The actual number of sets heading for the trash heap is hard to estimate. Tim Herbert, senior director of market research for the U.S. Consumer Electronics Association, said that some people might keep old TVs for playing video games or watching DVDs.

Australia, Canada, Japan and several countries in Europe have also executed or planned analog switch-off dates sometime between 2006 and 2012. Digital transmission offers better quality and frees up the airwaves for other uses. In the United States and some other countries, the newly available bandwidth is being auctioned off, netting large proceeds for governments.

Still, the U.S. switch could be particularly harmful since the United States has not ratified the 1995 Ban Amendment to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal - a treaty banning the export of hazardous waste from developed to developing countries.

U.S. law defines waste destined for sale as a commodity, even if it contains toxic materials.

"The EPA has thrown the door wide open for export of this toxic e-waste to the poor countries," said Barbara Kyle, U.S. coordinator for the Electronics TakeBack coalition, referring to the U.S. Environmental Protection Agency. "That's a crazy way to think about it: 'Because someone will buy it, it's no longer toxic.'"

But even in countries that have signed the Basel treaty, responsible recycling of electronics is foiled by unethical or naïve recyclers. This is partly a result of misguided reuse programs. A lot of shipped electronics are obsolete, do not work or are destroyed in transit.

"In Lagos, Nigeria, there is a vibrant reuse market," Kyle said. "There are people there who can fix anything if it's fixable, and there's a market for people who want to buy it. But they get container loads where as much 75 percent of what they get is absolute junk."

Some recyclers are just unscrupulous. "It's illegal for many countries around the world to accept e-waste from us that's not working, because it's toxic waste under their laws," Kyle said, but "if it's reuse," she added, "many of them can. That's one of the ways these waste-trade brokers are getting around that law, if there is even any enforcement."

Another problem is that some U.S. recyclers charge to dispose of electronics, which can be a deterrent to recycling. Nine states have passed producer-responsibility laws, requiring manufacturers to offer free e-waste collection and recycling, and 13 more are considering similar legislation. Several European countries also have such laws.

In the absence of U.S. legislation, the TakeBack coalition is working to persuade manufacturers to accept returns of their products for free and recycle them voluntarily. Several computer companies have agreed to do so; but so far, Sony is the only television manufacturer to adopt such a policy.

"Given that these companies' sales numbers are off the charts," Kyle said, "they need to be taking some responsibility for the problem that they are indirectly creating by selling all this new stuff."

Sony started its program in September 2007 with the slogan, "We make it, we take it." Although the program is currently an expense, Sony hopes to control costs by setting up its own infrastructure and collecting enough e-waste to achieve economies of scale.

Sony has partnered with Waste Management, a U.S. waste and recycling company based in Houston. At its own and at partners' facilities, electronics are broken down into their constituent parts - glass, plastic, metal, circuit boards - and sent to partners that can process the components. Sony has signed a commitment to responsible electronic waste recycling, drafted by the TakeBack coalition, and is encouraging Waste Management to do so, too. Waste Management adopted its own internal "pledge standard" in 2002.

One of its partners is Intercon Solutions in Chicago. Brian Brundage, the Intercon chief executive, said the company had processed 40 million to 50 million pounds, or 18 million to 23 million kilograms, of television components last year, which he estimated came from about 714,000 sets.

Brundage said he had already seen a huge increase in the quantity of TV material moving through the facility, and he expected the volume to triple this year from last year.

Like Waste Management, Intercon is a disassembler, and relies on other companies to process its waste.

Older TVs contain cathode ray tubes made of leaded glass, which Intercon removes and sends to a smelter that separates the lead from the glass. The company says that it uses only smelters certified by the International Standards Organization to be in conformity with its ISO-14001 norm - an international environmental standard that is subject to auditing.

Most plastic in electronics contains flame retardant chemicals containing bromine, which for technical reasons cannot be made into new electronics. Instead, this plastic is chipped and made into asphalt roads, composite decking and parking lot bumpers. Some activists fear these uses allow chemicals to leach into the environment.

Intercon recycles plastic into parking bumpers only, Brundage said. It used to mix it into composite lumber for tables and benches bought by Disney, which used them in its theme parks; but that

activity has been discontinued.

Intercon said that it aimed to supply recycled materials to local industries, not only cutting down on transportation fuel use and ensuring regulated recycling, but also supporting U.S. jobs.

"Everybody's first instinct is, 'Well, China's paying the most, so let's ship it to China,'" Brundage said. But by doing that, "you're making it that much easier for them to keep all the manufacturing over there."

For Sony, one of the motivations for signing on to recycling was to improve its supply management, said Douglas Smith, director of corporate and environmental affairs at the company.

"If you watch the commodities market, the price of copper has quadrupled in the last three to four years," Smith said. By recycling, "we can get the copper out and get it back to our factory and make new circuit boards."

Longer term, a trend toward the reduction of toxic materials in manufacturing could make recycling easier, safer and less expensive. Some companies have eliminated brominated flame retardants from their plastics. Sony did so for its TVs in 2005 but still uses them in other products. Toshiba is aiming for elimination next year, and Samsung and LG want to end its use by 2010.

As more people buy flat-screen sets using liquid crystal displays, cathode ray tubes will gradually disappear. But LCDs contain mercury: new technology does not always make a cleaner product and Kyle, of the TakeBack coalition, said no law required manufacturers to test new materials and processes for toxicity.

"End-of-life considerations are not on the design table," she said, "and they should be."

Responsible recyclers employ independent auditors to prove their credibility. Auditing is expensive, but underpins their reputation.

Kelley Keogh, an environmental, health and safety consultant, audits the partner companies used by Waste Management. QMI-SAI Global, a U.S. management systems analyst, audits such partners for Intercon.

"People that we do business with, which are all really big companies, just get that warm, fuzzy feeling knowing that it's been handled by someone as reputable as QMI," Brundage said.

That, in turn, underpins the company's commercial success. "It's a profitable business," Brundage said. "I sleep real well at night, knowing that I'm not landfilling a percentage of what comes into this facility, like everyone else is."

Notes:

