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“Topics for Debate”

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The Growing Pile of E-Waste

by

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In today's world, we are constantly upgrading to better computers, cell phones, TV's, iPads, iPods, Xboxes and so on. Unfortunately in getting the newest version of the Xbox, computer or cell

phone we want, we typically throw away our old ones. This massive amount of electronic waste, which is called e-waste for short, has caused serious environmental problems. One important problem to address is what

should be done with the huge pile of e-waste everyone created.

E-waste often used to end up in landfills. However, in 25 states and some countries, there are rules that don't allow us to throw away our old computers, TVs and cell phones in landfills or dumps anymore. Because of these rules, many countries send their e-waste to less affluent countries with no rules against dumping the e-waste there (Kuper, Hojsik, 2008).

Exporting e-waste from Europe is illegal but exporting old electronics for 'reuse' allows unscrupulous traders to profit from dumping old electronics in poorer countries. In fact, many of these poorer countries, which include China, India, Ghana and Nigeria, even hire children to remove the valuable material from the dumped e-waste. Unprotected workers, including children, will dismantle computers and TVs with little more than stones in search of metals that can be sold. The remaining plastic, cables and casing is either burnt to melt off the plastic and reclaim the copper wiring or simply dumped. Unfortunately, burning plastics releases toxic chemicals

into the environment, polluting the scrap sites and causing major health problems for these unprotected workers (Brigden, Labunska, Santillo, 2008).

In 2008, Greenpeace conducted the first investigation of workplace contamination from e-waste recycling and disposal in Ghana. Greenpeace experts collected soil and sediment samples from two e-waste recycling sites where children work. The samples collected contained toxic metals including lead in quantities as much as one hundred times background levels. Many of the chemicals released during the burning process are so highly toxic that some may affect children's developing reproductive systems, while others can affect brain development and the nervous system. Other chemicals such as phthalates, some of which are known to interfere with sexual reproduction, were found in most of the samples tested. One sample also contained a high level of chlorinated dioxins, known to promote cancer (Brigden, Labunska, Santillo, 2008).

Containers filled with old and often broken computers, monitors, and TVs are often laden with toxic chemicals like lead, mercury, and flame retardants. The majority of

the containers' contents end up in these scrap yards to be crushed and burned by unprotected workers. Popular electronic brands including Canon, Dell, Microsoft, Philips, Nokia, Siemens and Sony arrive in these countries from Germany, Korea, Switzerland and the Netherlands under the false label of "second-hand goods". Sending old electronic equipment to developing countries is often hailed as "bridging the digital divide." But, all too often this simply means dumping useless equipment on the poor. One estimate suggests that 25-75% of "second hand goods" imported to Africa cannot be reused (Kuper, Hojsik, 2008).

Places like Ghana are now home to huge piles of electronic products. While valuable elements and materials are reclaimed, the process can result in the release of other toxic chemicals into the surrounding environment—not just the scrap yards and workers. The water supply is polluted because of the inefficient ways used to get the valuable resources out of the e-waste (Brigden, Labunska, Santillo, 2008).

There are advantages ,however, to e-waste recycling if done in accordance with environmental laws and

regulations. Proper recycling will prevent dangerous chemicals and cancer causing toxins from being leaked into the environment. Also, many materials that are used in the manufacturing of computer hardware, such as tin, silicon and iron can be used in the making of other products. And with less computers and computer parts being thrown away, it could help slow down the rate at which the mountain of e-waste is growing.

Recycling is not without cost. One drawback is that very few of the electronics we throw away are recycled or remanufactured because manufacturers want to generate new merchandise, not reuse older products. Depending on the state of the waste electronics can be repaired and sold in the market. But supporters of sending e-waste to developing countries claim that business has been successful because of re-using these waste products. They point out that gathering these materials from e-waste is less environmentally damaging than mining new resources. Finally they state that the abundance of cheap labor, which in countries like Ghana include child labor, combined with lower environmental standards and less protection for workers makes it possible to process e-

waste in the developing world in a way which would be impossible and illegal in the United States.

So instead of throwing that old cell phone, laptop or iPad in the trash, do a quick search on the web for a recycling service near you. There are many companies in the United States that recycle computers and parts properly without polluting the environment. Sometimes you can even sell your old products and make a bit of money while helping to prevent further pollution. You can also potentially return the product to the manufacturer when you are finished with it as some businesses offer this option now. Unfortunately, many companies still find it way cheaper to sell their used computers to less-developed countries with less strict environmental laws, which results in these countries becoming toxic waste dumps.



Citations/Sources Used

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Michelle Laliberte is a mother, an environmental scientist, an author, and freelance writer based in Akron, Ohio. She is also surviving multiple sclerosis and is an inspiration to everyone that knows her child-like spirit and unfailing energy. Her articles have appeared in many newspapers, magazines and various websites, such as Scarymommy.com, Cleveland.com and Catalysta.net, on

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Image Credit: Russ Colson

editors note:

A somewhat different perspective on the source of E-waste in Ghana can be found at

<https://www.smithsonianmag.com/science-nature/burning-truth-behind-e-waste-dump-africa-180957597/>

(Adam Minter, 2016, The burning truth behind an E-waste dump in Africa, ending the toxic smoke rising from an iconic dump in Ghana will take more than curbing Western waste)

More recent academic work on this topic and the research in Ghana can be found at

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5334689/>

(Kurt Daum et al 2017, Toward a More Sustainable Trajectory for E-Waste Policy: A Review of a Decade of E-Waste Research in Accra, Ghana)

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