



The illegal shipments (or export) of e-waste

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It is often referred to as “backyard recycling”, so what does it mean?

Organohalogen compounds are, in general, non hazardous but a ban is being considered (by no means certain) in an attempt to minimise the impact of uncontrolled and unsafe recycling practices that are carried out in India, Africa, and China.

Guiya, in Guandong Province China, is acknowledged as the largest e-waste site on earth. One million tonnes of e-waste is shipped into the four villages that make up Guiya per year, or 100 truckloads per day (mostly from the US, Canada, Japan and South Korea). 88% of the estimated 150,000 people involved in the recycling suffer from neurological, respiratory or digestive abnormalities or skin diseases.

The fact that this happens is not in question and many people, especially the young, are harmed by the toxic chemicals that are emitted when some of these substances are burnt over open fires to recover materials such as copper, silver and aluminium from electronic waste that has reached end-of-life. This can happen either at the roadside or in the many dismantling “shops”.

The export of WEEE (waste electrical and electronic equipment) from the European Union to countries where these practices occur is illegal. In addition, the recycling processes in the developing world generally do not meet the basic requirements of the WEEE Directive. It is also against the requirements of the Basel Convention on trans-border shipment of hazardous waste. The Basel “ban” was based around an attempt to stop the developed world shipping e-waste to developing countries in particular for recycling.

While Europe signed up to this convention there is still recent evidence that it happens. The US has yet to ratify the agreement and still ships significant amounts of e-waste at end-of-life to China and India. However, Bill HR2595 is a positive step forward as is the accredited e-stewards initiative that aims to restrict certain exports of electronic waste.

Dr Thuppil Venkatesh, advisor to the National Referral Centre for Lead Poisoning in India (NRCLPI) states that “53% of the children under 12 in Bangalore have levels of lead in their blood that is causing brain damage and restricting their ability to learn”. He goes on to talk about one of the contributing factors saying “We are seeing an increased number of cases because more and more electronic waste is being handled by our people”.

Dr Venkatesh, in his address to a Hazardous Materials Seminar in Bangalore during 2008 explained that the estimated costs associated with the lead poisoning among children in India are over \$600 million per year. While e-waste is burnt over open fires, acid baths are used to strip cable and PCB's for earnings of around \$100 to \$150 per month.

However, hazardous materials such as lead, cadmium, chromium, flame retardants and other toxins are found in e-waste. Inhaling, or regular handling of e-waste can result in damage to the brain, nervous system, lungs, and kidneys, can cause cancer and even be fatal. Toxins are also found in the soil and groundwater.

The raw materials in a computer for example, such as gold, copper coils, aluminium and other metals are worth money but to extract these, the motherboards are basically cooked, releasing arsenic, mercury, lead and other toxins which harm the body.

Despite the Basel Convention it is estimated that 50% of all US e-waste is “dumped” in India, China or Africa. However, Europe is far from blameless with 75% of UK e-waste ending up in Nigeria or Ghana. Dr. Venkatesh summed the problem up by requesting that developed countries stop sending their old computers to help with education.

“Please, no charity, do not send us your old computers and cell phones – you are killing the children!” Dr. Venkatesh

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However, with a high demand for computers and people willing to do the painstaking work to recycle them for low pay, the industry is growing despite the dangers.

Experts claim that as many as 5 million people work in this trade in India alone, often with minimal protection. The UK generates 1 million tonnes of e-waste per year, the equivalent of filling Wembley stadium six times over. Globally the e-waste total is thought to be over 45million tonnes, growing at a worrying 5% per year.

Greenpeace in India, for example, are well aware of the problem and understand how dangerous the recycling is and the primitive procedures in use.

“Dismantling often takes place by bare hand with no protection at all” Greenpeace

They go on to say that while the lawmakers in India are aware of the problem they are loathed to implement rules that would remove jobs for the poorest people

The problem is not consigned to India as many countries, in particular China, where the problem is potentially even worse, receive a share of the millions of tonnes of e-waste that disappears from the developed world every year only to reappear in developing countries, despite the international bans.

In Europe, the WEEE Directive has been introduced and focuses on the funding, and safe disposal, of electronic equipment at end-of-life that was placed on the market after August 2005. In the UK the law suggests that illegally exporting e-waste should carry a two year prison sentence and unlimited fine, but the reality is that no one as yet has gone to prison and the maximum fine handed out was just £12k.

There are very few regulated recycling plants in the developing world. However, without the necessary investment in such facilities the e-waste problem is likely to grow, not least because of the increasing number of computers sold around the world, and the attraction to the developed world of recycling a PC for \$2 rather than \$20 back home.



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