



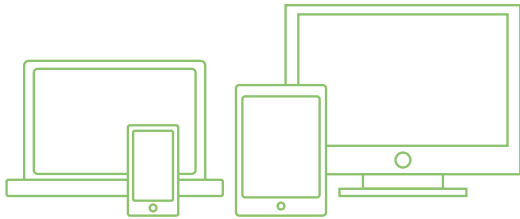
Paper Round

Electronic Waste

Dismantling the industry

#BeClearOnData

INTRODUCTION



We are in the digital age and we have access to what we want, when we want it. While this has seen great progress, it has also resulted in a world where the flow of information is overwhelming. A recent [report](#) suggests that the average person now consumes the same amount of information in 9 months as they did in a lifetime just 70 years ago.

To consume and manage this tidal wave of information we have seen a huge increase in electronic devices. This has resulted in a much shorter lifespan for electronics, as everyone rushes out to buy the latest “must-have” technology. These cultural shifts are the reason why electronic waste is one of the fastest growing waste streams in the world, with around 50 million tonnes produced every year and predicted to double by 2050.

But where do our devices end up? Although it’s a legal requirement to ensure that electronic waste is treated correctly, up to 90% of the world’s electronic waste, worth nearly £12bn, is illegally traded or dumped in developing countries each year, according to the UN Environment Programme.

These countries handle much of this waste by shredding, burning and dismantling everything in ‘informal’ recycling facilities.

This paper will look at the realities of this industry and will try to achieve more clarity on what truly happens to electronic waste when it isn’t handled responsibly.



SOCIAL CONSEQUENCES

HEALTH

A significant number of electronic items are deemed hazardous waste due to toxic parts containing substances such as mercury, lead, flame retardants and polluting PVC plastics. These can severely harm human health, affecting the kidneys, blood and central and peripheral nervous systems.

The International Labour Organisation (ILO), a United Nations agency, reported that an estimated 80% of children in China suffer from respiratory diseases and high concentrations of lead in their blood.

TABLE 1: HEALTH RISKS EXPLAINED

Electronic Products	Hazardous Materials	Health Effects from Improper Disposal
Batteries	Cadmium, lead and mercury	<ul style="list-style-type: none"> • Birth defects • Brain, heart, liver, kidney and skeletal system damage • Nervous system damage • Reproductive damage
Computer monitors and televisions	Lead in glass cathode ray tubes (CRTs)	
Electronic switches, light devices and flat screen displays	Mercury	
Printed circuit boards	Lead, chromium and mercury	
Solder on circuit boards	Lead	
Older televisions, computers and electrical appliances	PCBs (polychlorinated biphenyls)	

According to the World Health Organisation, about 70% of the heavy metals found in landfills come from electronic waste. Where electronic waste is burnt to recover the valuable metals the health risks from the toxins released are particularly acute. Looking at these facts, one has to wonder; are we really giving proper consideration to what is happening to our old electronics and the impact it has on others?

CHILD LABOUR



Child labour is a devastating consequence to the ‘informal’ recycling industry. Children as young as five years old are working full time in the presence of toxic metals and dangerous chemicals.

According to a report by the Associated Chambers of Commerce and Industry of India (ASSOCHAM) about 35,000 to 45,000 children between the ages of 10 and 14 are involved as ‘scavengers’ or ‘waste-pickers’ and dismantlers in the informal recycling sector in India.

CORRUPTION

One of the main reasons why electronic waste is sent to developing countries is because it is much cheaper than investing in the means to recycle them properly. It is therefore easier to export the problem.

There are valuable metals in most electronic products and if you don't invest in the proper health and safety processes, there is a profit to be made if you can extract them at a minimal cost, for example by burning away the plastic sheath around a copper cable. This profit motive drives corruption on the importing, processing and sale of electronic waste and its component materials.

ENVIRONMENTAL CONSEQUENCES

LAND



As discussed, most electronic equipment contains toxic materials such as zinc, lead and barium. When released into our environment they not only affect our health but also the soil and local wildlife as well. So much so, that in Ghana an egg was found to exceed food safety standards on toxins which cause cancer and damage the immune system.

The throwaway culture, endemic in the technology industry, drives an increase in mining, to supply materials for yet more devices. Mining is associated with its own stark environmental impacts and can lead to changes in land use, for example, taking away valuable rainforest or productive farm land.

WATER

Mining also has another significant environmental impact, drought. Water is diverted to mines to clean the ore dug from the ground and is therefore not available for drinking or use in farming. There is also another risk, when electronic waste is improperly disposed of in landfill, the heavy metals can leach into local streams and ponds, damaging marine life and the condition of the water itself. In many cases, local people rely on these water systems for drinking, cleaning and cooking.

AIR

In developing countries, electronic waste dumps are often accompanied by highly toxic smoke as workers burn wires to retain the copper, a valuable commodity. This open-air burning releases harmful hydrocarbons into our air, impacting global climate change.

ECONOMIC CONSEQUENCES

It is important to understand that there are precious materials found in our electronic products, including gold, copper, palladium, silver, platinum and cobalt. According to a UN report on electronic waste (2014) there is approximately 100 times more gold in a tonne of smart phones than in a tonne of gold ore itself. However, while we would never throw out our jewellery, we dispose of these precious metals all the time, thanks to poor recycling techniques.

When these materials are thrown away, we must then invest more in mining, meaning that we continue to extract more materials from the Earth. At this rate, we are looking at the possibility of these materials running out within 100 years. A [report](#) even indicated that current known reserves of copper, a product found in virtually all electronics, could be depleted by 2050.



WHAT PAPER ROUND DOES TO AVOID THESE CONSEQUENCES

Paper Round guarantees that your items are recycled appropriately and securely, ensuring that no electronic waste ends up in developing countries, jeopardising the health and wellbeing of millions of people.

We collect electronic waste and old IT equipment from within your office and track it to our recycling facility. Once there our staff decide on the most appropriate way to responsibly recycle the equipment. We reuse or recycle 98% of the electronics we collect.



Anything containing data is wiped using Blanco, a government approved software. This means our clients are fully compliant, and we provide a certificate of destruction to prove it.



In addition, we also work with the Children's Literacy Charity, donating the value of one tutoring session for a child in the UK at risk of illiteracy, for every 15 working PCs or laptops we collect. To date we have provided over 1,000 tutoring sessions via this partnership.

WHAT YOU CAN DO

The first line of defence is to minimise the electronic waste you produce. The less you buy, the less you'll have to dispose of.

Moving away from a throwaway culture means not only delaying the purchase of the latest model, it also means repairing the devices you have. Some manufacturers are designing products in ways that make it easier, and sometimes even cheaper, to buy a new product rather than repair one. However, when the environmental and human health costs are considered, if an old item is not properly disposed of, a new item is not actually 'cheaper'.

It all comes down to asking the right questions and not trusting others to do the right thing for you.

CONCLUSION

Electronics have allowed us to communicate in ways in which we never imagined, even just a few years ago. They can enhance our productivity and it would be wrong to say advancement in technology is “bad”. Nonetheless, we need to take responsibility for the way we dispose of electronic waste; ensuring we minimise the social, environmental and economic impact of our actions.

Importantly, we should be asking the right questions and making sure we really know what happens to our IT and electronic waste. It only takes one great decision to change the way we deal with our electronics.

Follow the campaign on our social networks and by using the hashtag **#BeClearOnData**.



Thank you for reading. To engage in the debate visit us on:



@PaperRound using #BeClearOnData



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