Cover Story

Dumping Grounds of Shame

Vast amounts of obsolete IT equipment are being dumped in countries such as China, India and some African nations. Urgent action is needed to tackle these shameful mountains of e-waste, says editor Brian Wall.



With the 'reuse-recycle' message still failing to hit home sufficiently hard and widely enough, India alone could see a 500% rise in the number of old computers dumped by 2020, according to a recent

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survey of 11 nations. Unless dealt with properly, the waste could cause massive environmental damage and threaten public health.

Globally, e-waste is growing at a rate of about 40 million tonnes per year as consumers, in both developed and developing nations, buy new gadgets and jettison their old ones, says a UN report.

ESCALATING PROBLEM

Many of the older items end up in developing nations. By 2020, China and South Africa could see e-waste generated by old computers rise by 400%, compared to 2007 levels. In a decade, estimates the report, e-waste from mobile phones will be seven times higher in China and 18 times higher in India.

Sales of electronic products in countries such as China and India and across continents such as Africa and Latin America are set to rise sharply in the next 10 years. And, unless action is stepped up to collect and recycle materials properly, many developing countries face the spectre of hazardous e-waste mountains with serious consequences for the environment and public health, according to UN experts in a landmark report released by UNEP (United Nations Environment Programme).

The report, 'Recycling - from E-Waste to Resources', used data from 11 representative developing countries to estimate current and future e-waste generation - which includes old and rundown desk and laptop computers, printers, mobile phones, pagers, etc.

In South Africa and China, for example, the report predicts that, by 2020, e-waste from old computers will have jumped by 200 to 400% from 2007 levels, and by 500% in India. By that same year in China, e-waste from discarded mobile phones will be about seven times higher than 2007 levels and, in India, 18 times higher. China already produces about 2.3 million tonnes (2010 estimate) domestically, second only to the United States with about 3 million tonnes. And, despite having banned ewaste imports, China remains a major e-waste dumping ground for developed countries.

BACKYARD RECYCLERS

Moreover, most e-waste in China is improperly handled, with much of it incinerated by backyard recyclers to recover valuable metals such as gold - practices that release steady plumes of far-reaching toxic pollution and yield very low metal recovery rates, compared to state-of-theart industrial facilities.

Some nations, however, are more than happy to take in e-waste, in order to extract some of the precious materials and metals that go into making modern consumer electronics. For instance, in an average year, global production of mobile phones and computers uses 3% of the silver and gold mined, 13% of the palladium and 15% of the cobalt. "China is not alone in facing a serious challenge," says Achim Steiner, executive director of the UN Environmental Programme (UNEP), which issued the report. "India, Brazil, Mexico and others may also face rising environmental damage and health problems, if e-waste recycling is left to the vagaries of the informal sector."

E-WASTE CENTRES

On the plus side, the report singles out Bangalore in India as a good example of how local initiatives could reform the gathering and treatment of e-waste. And it urges nations such as Brazil, Colombia, Mexico, Morocco and South Africa to set up state-of-the-art e-waste treatment centres now, while the amounts they produce are relatively small. "One person's waste can be another's raw material," points out Konrad Osterwalder, rector of the UN University. "The challenge of dealing with e-waste represents an important step in the transition to a green economy."

According to the UNEP, the appropriate handling of e-waste can both prevent serious environmental damage and also recover valuable materials, especially for metals. The recycling chain for e-waste is classified into three main subsequent steps: (i) collection, (ii) sorting/dismantling and preprocessing (including sorting, dismantling and mechanical treatment) and (iii) end-processing.

All three steps should operate and interact in a holistic manner to achieve the overall recycling objectives. The main objectives of e-waste recycling and basic considerations for innovation are:

- Treat the hazardous fractions in an environmentally sound manner
- Recover valuable material maximallyCreate eco-efficient and sustainable
- business
- Consider social impact and local context.

Due to the wide lack of awareness over e-waste recycling in emerging economies, innovation hubs and centres of excellence have not yet been established, states UNEP in another report, 'Recycling - From e-waste to Resources'. However, some organisations are currently establishing their e-waste competence and have a great potential to develop into innovation hubs. The current situation in China, India and South Africa indicates that smaller and less complex economies, such as South Africa, improve faster in awareness and competence.

What is clear is that action to halt the threats developing countries in particular have to face from these harmful e-waste mountains has to be immediate and decisive. The routes to market for rogue traders have to be choked off. Closing our eyes to what is happening on another continent is not the kind of response any of us can be prepared to countenance. Cover Storu

E-Waste: An International Scandal

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The programme, which alleges serious malpractice in UK public sector recycling, has raised worrying questions about how any business can ensure its IT equipment is recycled safely and responsibly. In the BBC3 film, IT equipment from several high-profile public sector organisations was alleged to have made its way to a waste site in Ghana where boys as young as five risked their lives to salvage scrap metal from computers to sell for as little as 5p. Some of the equipment was marked with the names of Westminster College, University of Surrey, Wandsworth Borough Council, South Hampstead High School and even West Yorkshire Police.

DEEP CONCERNS

Computer Disposals - a leading UK IT disposal companies (see page 26) - is one of many organisations deeply concerned about the implications of the recent BBC3 programme. In fact, it has received numerous emails and calls relating to the screening. Confides the company's director Jean-Pierre Naylor: "This programme highlights the concerns we have harboured for a while, regarding the increasing number of less than scrupulous IT disposal companies currently operating. Whilst the Environment Agency is responsible for the monitoring of waste transfers, they are facing an almost impossible battle, due to the ever increasing scale of waste production and these cowboy operators. Unfortunately, this incident is not a one-off, which is why companies should be extremely diligent when selecting their IT disposal partner."

Equally concerned by these irresponsible practices is Yash Chadha, managing director of Reuse Recycle IT. "Decisions have to sometimes be made for both business and ethical reasons - and the latter requires investment of resources that companies are not always prepared to make. Reuse Recycle IT offers a corporate solution for IT disposal, based on the needs of the company, which factors in ALL equipment, not just the 'good stuff'. As a one-stop solution provider for IT disposal, we rely on our systems and vetting processes. We take the time to vet every part of the process we outsource and carry out random checks. This reduces the cost of disposal for public sector and private companies."

Whatever market you are in, he states, there will always be someone who tries to make an extra profit at the expense of others. "In this instance, it is done by shipping equipment that is not fit for purpose to a developing country, rather than paying for proper disposal in the UK. We vet our partners and make random checks. We are working on software that will provide online access to both companies and the public sector, so they can see what is happening to their equipment. Transparency is key to the ethical challenges the industry is facing."

ILLEGAL TRANSPORTATION

Andy Howell, group recycling manager at Stone, the UK computer hardware manufacturer and public sector specialist, is equally appalled by what has been happening: "European laws exist to prevent such UK IT waste ever reaching countries such as Ghana in this way. But, as this programme has highlighted, these laws may not be controlling the recycling market as well as they could be, with some recycling providers operating in the UK transporting waste illegally, rather than recovering or disposing of it correctly."

Howell believes that it is a case of highly reputable UK public sector organisations being let down badly by 'cowboy suppliers' who have not taken adequate care to ensure that the systems being replaced will be responsibly recycled. "Not to mention the harm that such irresponsible behaviour is doing to the environment as a whole and specifically to the countries in which the waste is dumped."

Howell points to the many recycling companies that *will* take responsibility for recovering appropriate IT hardware and redeploying it through the proper channels. "Any equipment that is not fit for recovery will be recycled in line with the present stringent legislation and put back into manufacturing processes where possible," he adds.

Following the full implementation of the WEEE (Waste Electronic & Electrical Equipment) Directive in 2007, Stone met the challenge head on and invested more than £500,000 to equip its own authorised treatment facility, fully licensed by the Environment Agency. "Whilst other UK IT manufacturers engage third parties to discharge their producer obligations, Stone manages the entire lifecycle of the hardware it manufactures from 'cradle to grave', which, in turn, affords us control over the environmental impact of our products. In the past twelve months, absolutely nothing has even gone to UK landfill."