eWaste

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E-WASTE:
REFUSE TELECOMS SHOULD REUSE

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Telecom carriers have for the most part enjoyed prominent positions in many responsible investment (RI) portfolios and have avoided scrutiny from responsible investors. However, scrutiny is on the rise as the industry's exposure to a variety of environmental, social and governance (ESG) issues – ranging from labour rights to health and safety to a host of environmental issues – becomes more apparent. Driven by growth in mobile phone subscribers, the shortening cycles of technological upgrades and product diversification, the generation of electronic waste or *e-waste,* is becoming the main issue.

The United Nations Environment Program (UNEP) estimates that some 20 to 50 million tonnes of e-waste is generated worldwide annually. Despite the recent global economic downturn, e-waste generated by the telecom industry is expected to keep growing steadily as subscriber numbers and mobile phone sales increase. At the end of 2008, the International Telecommunications Union (ITU) reported more than 4 billion mobile phone subscriptions worldwide, representing a staggering 720 per cent increase since 2000. Furthermore, in the last decade, there has been a clear consumer shift away from fixed or landline devices to more disposable mobile devices. By the end of 2008, the number of mobile phone subscriptions was three times the number of fixed telephone lines[1]. This imbalance is driven by the introduction of smartphone devices, which represent the fastest-growing segment of the mobile devices market. In 2008, the North American smartphone segment grew more than 70 per cent.[2] Also significant is that globally, smartphone sales increased by 22.5 per cent during the same period.

The e-waste problem looms largest in developing economies and the East. The fastest growing mobile subscription rates are found in the markets of developing countries, which already hold an estimated 64 per cent of the world's mobile subscriptions. Asia Pacific's telecom market is forecast to surpass North America's, and the Middle East and Africa are predicted to be the fastest-growing telecom regions with a CAGR of 8.6 per cent until 2012.[3]

Electronics manufacturers (OEMs) have been prominently implicated in the e-waste problem; however, telecom carriers are also directly responsible in the generation of e-waste. Carriers spend significant marketing dollars aimed at growing their mobile subscriber base, and accelerating the product life cycle ("churn"). Subsidies on new phones or hardware upgrades are common means to achieve these goals. The combination of more phones, turned over more often, translates to a rapidly increasing pile of e-waste.

Innovation on the part of OEMs provides a strong temptation for carriers to look the other way when it comes to e-waste. New generation hardware typically

[1] ITU - http://www.itu.int/ITU-D/ict/publications/idi/2009/material/IDI2009_w5.pdf

[2] IDC February 2009 Press Release - http://www.idc.com/getdoc.jsp?containerId=prUS21659209

[3] Gartner Inc.

allows carriers to charge higher fees, thus carriers have an incentive to encourage frequent upgrades of hardware. Consumers have a similar incentive: new hardware is also often a cheaper and a more convenient alternative to upgrading an earlier model phone.

North America and Europe's e-waste stream is increasing at three to five per cent a year, almost three times faster than their total waste stream. Developing countries are expected to triple their e-waste production over the next five years.

The E-Waste Hot Potato

E-waste is the hot potato of the technology industry – no one wants to be the last one holding it. The pathway for electronics is largely one-way, from producer to retailer to consumer to government with no pass-backs. Even governments get in on the game by sending e-waste to other countries for disposal. Initiatives aimed at controlling disposal and *e-waste trafficking* have been introduced by developing nations but lack the teeth of enforcement.

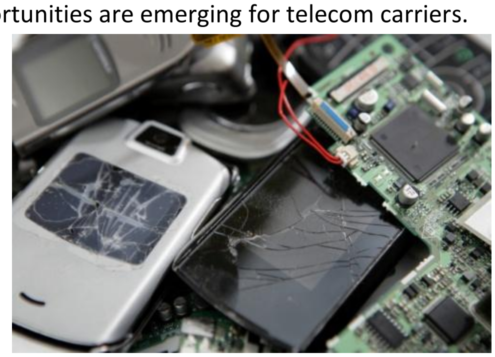
The greatest concerns over e-waste from an RI perspective relate to the environment and labour safety. E-waste is composed of toxic chemicals and heavy metals (which include chromium, zinc, lead, copper, manganese, selenium, and arsenic) that cannot be disposed of safely and without environmental damage. Further, the recycling of e-waste material often occurs under dangerous conditions.

Despite waste collection efforts through public and private sector programs, too much e-waste still winds up in landfills or is burned in smelters, causing the release of toxins and pollutants into the environment and municipal waterways. The U.S. Environmental Protection Agency (EPA) states that, of the 100 million cell phones that are discarded each year in the U.S., roughly 10 per cent are actually recycled[4]. The existing incineration recycling processes for e-waste can also release harmful emissions and air pollutants such as dioxins, heavy metals and hazardous acids.

Some collected e-waste is donated to charitable organizations for reuse or to a relatively small number of companies who refurbish them for resale. However, UNEP estimates that 70 per cent of global e-waste is shipped, often illegally, from industrialized countries to countries in Asia and Africa, where safety and environmental controls are not enforced. For instance, China and India have in place an underground electronics recycling industry employing vulnerable migrant workers at scrap yards (some of whom are children) to dismantle electronics and recover precious metals and plastics. As these workers operate with no protective gear, the dismantling process exposes workers to a variety of health problems, including lead poisoning, skin lesions, brain damage, respiratory failure, and even cancer.

In May 2002, Beijing announced it would crackdown on illegal imports of junked electronics from developed countries. However, in October 2008, the Canadian Broadcasting Corporation (CBC) exposed continued exporting activity of e-waste from Canada to China[5]. A month later, television newsmagazine *60 Minutes* exposed a few American companies who were exporting electronic waste that they were paid to recycle to China. At the end of this e-waste trail, reporters found scrap yards run by dangerous gangs.

As the need for a sustainable solution to recycle mobile phones becomes more urgent and the demand for responsibility and leadership grows, new risks as well as opportunities are emerging for telecom carriers.



[4] "Electronic Waste Management in the United States, Approach 1" Table 3.1 EPA530-R-08-009 US Environmental Protection Agency, July 2008.http://www.epa.gov/osw/conserve/materials/ecycling/docs/app-1.pdf

[5] "E-waste Dumping Ground", CBC, October 2008.

Legislation pushes toward Extended Producer Responsibility

Environmental groups, consumer groups, and some governments are advocating the notion of Extended Producer Responsibility (EPR)[6], whereby producers assume greater responsibility for their products throughout their entire lifecycle from cradle to grave.

The primary driver of change towards this end is regulatory, and, as is often the case with environmental regulations, the European Union is at the forefront. Manufacturers have been held accountable for their creation of e-waste through EPR and the WEEE (Waste Electrical and Electronic Equipment) Directive. The Directive, implemented in 2005, requires producers to finance the collection, treatment, recycling and/or proper disposal of all e-waste generated in Europe. The Directive also applies to *distributors* of electrical and electronic equipment, including mobile phones and accessories, thereby holding telecom *carriers* accountable for the product they sell.

More recently, importers and retailers are being penalized for their complicity in hazardous waste creation through the EU Restriction of Hazardous Substances (RoHS) Directive, and the Registration, Evaluation and Authorization of Chemicals (REACH) Regulation. The RoHS Directive requires that, as of July 2006, electronic products sold in Europe may not contain certain toxic chemicals or materials, including lead, mercury, and cadmium. The REACH Regulation, implemented as of 2007, requires that manufacturers and importers gather information on the properties of the chemical substances used in their products, to provide information on their safe handling and to register the information in a central European database. A number of jurisdictions in Asia, the U.S., and recently in Canada[7], have also passed regulations that to varying degrees reflect the principles of EPR and the WEEE. In Ontario, the Ministry of Environment passed WEEE regulation under the *Waste Diversion Act* in July 2008 and supported Ontario Electronic Stewardship (OES) a not-for-profit organization formed by leading retail, information technology and consumer electronics companies, to implement a WEEE program. As of April 1, 2009, the OES WEEE program includes a network of collection sites for consumers and businesses to drop off unwanted electronics to be recycled according to North American environmental standards. Funding for the program comes *entirely* from monthly fees paid by electronics' brand owners, first importers in Ontario, and assemblers, with no threshold-based exemptions. Specifically, e-waste generated by telecom carriers will be included in the second phase of the WEEE program expected in mid-2010.

It is only a matter of time before more stringent regulatory requirements are introduced in Canada and other key markets. Telecom carriers should exercise some foresight and take action to accommodate these pending rules, or risk significant penalties and tarnished reputations. Those companies that are proactive in participating in initiatives designed for e-waste reduction and recycling will be well positioned to reap the benefits of good ESG performance.

Opportunities for Leadership

While the principles of EPR apply to manufacturers, stakeholders are increasingly holding telecom carriers accountable for the role they play in distributing electronic products directly to end users. Internationally, there is evidence of telecom companies being responsive to stakeholder concerns and developing and implementing principles based on EPR.

For instance, U.K.-based Vodafone, which states on its website that it is WEEE compliant, has established a handset reduction/recycling program. The program offers customers incentives (such as keeping SIM cards and phone numbers upon changing a phone, additional

[6] The OECD defines EPR as an environmental policy approach requiring that manufacturers take-back products, recycle the parts that can be recycled, and dispose of the rest in an environmentally friendly manner. It therefore creates a strong incentive to manufacture products that are not toxic and are easy to recycle.

[7] According to Environment Canada, the country has a number of provincial, regional and national industry EPR programs, some of which are voluntary, although most are mandatory.

airtime or texting) to keep old handsets for longer than the 18 month average, reportedly reducing the monthly handset upgrade churn by 20 per cent. For those customers that do upgrade, Vodafone encourages the return of used handsets and accessories, including those used on other mobile phone networks, to stores in the U.K. for reuse and recycling. Customers can also send items directly to FREEPOST Recycling Vodafone, for which the company offers customers an account credit in return. Alternatively, customers can choose to donate the credit to charity. Vodafone has created a partnership with Global Cool, an environmental charity committed to helping people reduce their carbon footprint. For every phone the company receives, Vodafone donates £8 to £10 (CAD $14 to $18) to the charity to support their awareness-raising campaign.

In the U.S., Sprint Nextel, Verizon Wireless and AT&T, among others, report similar initiatives; however, Sprint also offers a phone buyback program through which customers can trade in their old phones for refurbishment in exchange for an account credit. All three wireless carriers have also partnered with the EPA to participate in its Plug-In to eCycling Campaign, which seeks to increase the national recycling rate to 35 per cent. All Plug-In partners have committed to work with recyclers who meet or exceed EPA's Guidelines for Materials Management, the Agency's voluntary guidelines for safe electronics recycling.

In Canada, all three major telecom carriers, BCE, TELUS, and Rogers Communications, which are listed on Jantzi-Sustainalytics' Social Index, have take-back programs; although the level of disclosure and transparency regarding these programs varies among them. All three carriers have company-wide programs to take-back electronic products and accessories free of charge for recycling or reuse, and are engaged with NGOs or charities. However, only BCE and TELUS publicly disclose recycling performance data and state targets with deadlines for the take-back program. Rogers lacks transparency on its efforts and has failed to communicate whether tackling e-waste is a major priority. Having said this, the reported recycling rates for these companies are arguably low. Bell Wireless reports it has diverted some 625,000 mobile phones from landfill since 2003 through its Bell Blue Box program (approximately 10 per cent of its 2008 subscriber base). In comparison, TELUS recovered only 86,645 wireless devices in 2008 (less than two per cent of its subscriber base), and plans to recover target of a mere 90,000 devices for 2009.

Take-back programs and customer incentives are a step in the right direction on the part of carriers. However, leadership opportunities have yet to be fully exploited in the space. As telecom carriers are increasingly being pushed to manage their supply chains more responsibly, companies should use their distribution power to push back on OEMs to not only reduce the toxicity and packaging of electronic products, but also to assume some responsibility for the end-of-life management of their products. In other words, carriers should be shifting the burden back on OEMs to incentivize them to develop more sustainable products.

These EPR principles could be addressed in a supplier procurement policy and/or in an e-waste supplier scorecard. Furthermore, in order to successfully combat the rise of e-waste, telecom carriers must make "reduction" a strategic priority with rigorous targets and deadlines (and provide appropriate disclosure on these metrics to ensure accountability). Compelling e-waste awareness campaigns and attractive incentives for end users are required to encourage a massive shift in consumer behaviour. In addition, carriers should be transparent about which e-waste recyclers are used and should ensure that collected e-waste is not shipped to developing countries by using local certified recyclers. Regular monitoring, auditing and compliance mechanisms should be enforced to ensure recyclers are behaving responsibly. As the global e-waste recycling industry is expected to grow to meet demand, telecom carriers could forge partnerships with recyclers in finding better ways to address the e-waste issue.

In anticipation of a more stringent regulatory environment, telecom carriers could be proactive about public policy involvement and/or industry collaboration to develop best practices and gain efficiencies, much in the same way tech hardware manufactures collaborated to develop the Electronic Industry Code of

Conduct (EICC). The EICC is a code of internationally-recognized best practices adopted and implemented by electronics brands and their suppliers to improve conditions in the electronics supply chain.

THE BOTTOM LINE

While a number of companies have taken helpful steps to address the problem of e-waste, most have a long way to go. As public concern over the astronomical growth projections of e-waste will increase, regulatory standards will become more stringent and global coordination to manage e-waste more responsibly will be inevitable. Companies that are ill-prepared to meet regulatory risks or to respond to public concern may face significant penalties, stakeholder backlash, tarnished reputations, and potential risk to their bottom lines. Carriers who have long enjoyed positions on RI indices could also face being demoted to "watch lists". On the other hand, companies that proactively demonstrate leadership and innovation in minimizing waste and in responding to stakeholder concerns will better position themselves both to manage their risk in this area, as well as to enhance their reputations and market opportunities in the long term.

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