

Multi-metal recycling for a sustainable society

by Chris K. Holding, Editor, Copper Worldwide magazine

Case Study: United States

The U.S. Consumer Electronics Association estimates that this year global spending on consumer electronics will surpass US \$1 trillion for the first time. For many, these electronics are seen as necessities to help us be productive and stay connected, which may explain why more consumers are now upgrading their “old” electronics every six to twelve months as opposed to every few years as in the past.

Views on legislation

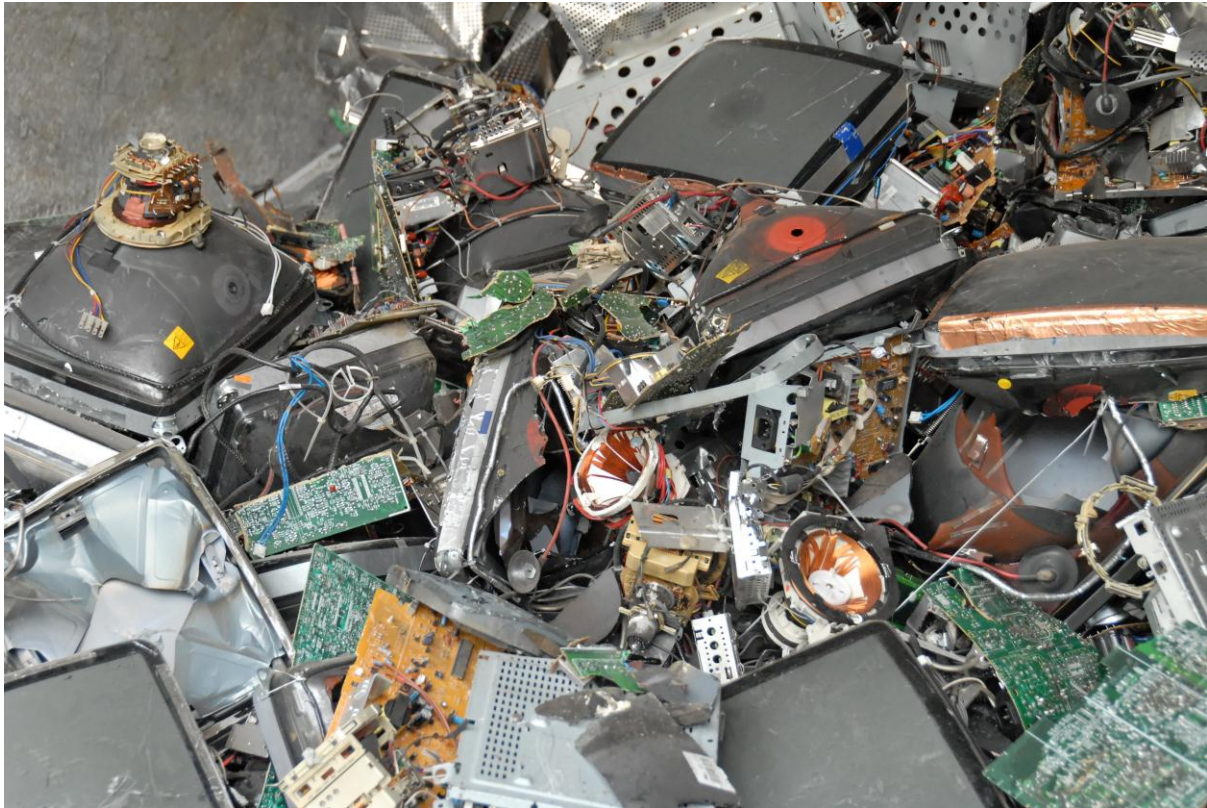
Collaboration to address the challenges associated with collecting data on used electronics transboundary movements began to be addressed by the United States Environmental Protection Agency from June 2011. The primary aim of HR 2284 / S1270 (The Responsible Electronics Recycling Act), which went to committee in June 2011, is to prohibit the export from the United States of certain electronic waste to developing countries. The bill would also establish criminal penalties for knowingly exporting restricted electronic waste, and increase Environmental Protection Agency (EPA) oversight of electronic waste handling and disposal. Supporters claim the Responsible Electronics Recycling Act would also curb fraudulent labelling on refurbished electronics imports. The Institute of Scrap Recycling Industries, Inc. (ISRI) came out against the Act in January 2012 on grounds of transfer and export restrictions.

Strategic commodities contained in scrap electronics, including rare earths, gold, copper, and aluminium, are sold off to the broker/exporters to be processed overseas for sale to global markets at full value. The Coalition for American Electronics Recycling (CAER) was formed in mid-2011 to support the Act in its passage because of this practice, saying that as a result investment in American recycling capacity is constrained, lagging far behind market demand. As of 2 July 2012, 72 companies were signed members of CAER. According to the Coalition’s website, responsibly recycling electronics in America creates seven jobs for everyone involved in the broker/exporter trade. Investors in domestic recycling are at a financial disadvantage to broker/exporters whose overseas recyclers are low tech and comparatively unregulated. (www.americanrecycling.org)

Business opportunities

According to the U.S. Environmental Protection Agency only 25 per cent of the U.S.’s 2.5 million tons of annual e-waste gets recycled. E-waste contains non-metal materials and toxic chemicals including lead, mercury, arsenic, and cadmium, but it also contains much higher levels of higher value metals than any ore can offer. A widening range of companies are now seeing e-waste as a business opportunity. According to the Institute of Scrap Recycling Industries (ISRI), the U.S. e-waste recycling industry generates \$5 billion in revenue each year, up from less than \$1 billion in 2002. However, a recent study by ISRI revealed that the industry’s future growth is dependent on reducing the barriers for consumers to recycle their household electronics. Although U.S. households account for the largest percentage of electronics in the market, these households only make up approximately 26% of the electronics recycling market.

Barriers to consumer electronics take-back programmes are reducing. The Best Buy Trade-In Program receives a percentage of the resold materials that have been recycled from the old electronics collected at retail stores by e-waste recyclers and collects money from consumer electronics manufacturers mostly as a result of state legislations that require these manufacturers to take responsibility for safe disposal of their products. Customers who receive cash incentives from dropping off their unused electronics are more likely to spend money on other products as well. (www.GreenBiz.com)



This e-scrap is not only worth recycling, it has to be recycled (Photo: CDA)

At least 25 states have now passed laws requiring electronic waste to be recycled, 23 of which require the manufacturer to take responsibility for safe disposal of their products. With the added pressure to recycle e-waste, there is an opportunity for retail stores like Best Buy, Staples, Target and Wal-Mart. Manufacturers can partner with retailers to help minimise e-waste. Retailers can see that consumer electronics takeback programmes not only enhance customer service and brand value, but also create an opportunity for new revenue streams while protecting the environment. It's a plus for e-waste recyclers, too, as they can expand their operations to include more household consumer electronics, making it a win-win for business and the environment.

Comprehensive standard

The Recycling Industry Operating Standard™ (RIOS™) is the global recycling industry standard for quality, environmental, and health & safety (QEH&S) management systems. RIOS provides a powerful framework for scrap recyclers of all sizes and scrap materials, including electronic scrap, to improve their QEH&S performance and their bottom line. The R2/RIOS Certified Electronics Recycler™ Program is all you need to know for recycling electronics responsibly. Initially designed for scrap metal recyclers, RIOS is readily applicable to electronic recyclers. It applies and can be readily implemented to all other

recycling operations including paper products and plastics, and can be readily aligned with existing management systems.

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About the Author:

Chris K. Holding is Editor and Publisher of Copper Worldwide quarterly technology magazine, which he launched in July 2011. This article is written in part as a celebration of the first year of existence of that publication. Chris is also a freelance technical writer and has been the Editor of Aluminium Times magazine since mid-2010. He has also written articles for Cast Metal & Diecasting Times magazine.