

**E-waste: Annual Gold, Silver “Deposits” in New High-Tech Goods Worth \$21 Billion+; Less Than 15% Recovered. 2012. United Nations University.**

This is an adaptation/summary/paraphrase of <http://unu.edu/media-relations/releases/step-news-release-6-july-2012-e-waste-precious-metals-recovery.html> and its posting here on the *Science Daily* site: <http://www.sciencedaily.com/releases/2012/07/120706164159.htm>

Our electronic and electrical gadgets often use small amounts of precious metals, including silver and gold. Due to the large numbers of these gadgets, 7500 tons of silver and 320 tons of gold are used each year for these products that include cell phones, PCs, tablets, and other devices. This adds more than \$21 billion in value to the amount that will one day be available through the urban mining of electronic waste (e-waste).

This \$21 billion, which is \$16 billion in gold and \$5 billion in silver, hidden in our collective electronics, equals the GDP of El Salvador. Currently 15% or less of these metals are recovered from e-waste in developed or developing countries. It now represents “deposits” of precious metals that are 40–50 times more concentrated than many of those found naturally in the ground.

As more electronics are sold, the amount of these metals available to be recovered also grows. In 2001, the electrical and electronic devices consumed 5.3% of the annual world gold supply and 7.7% in 2011. And gold prices have been on rise, from approximately \$300 per ounce in 2001 to more than \$1500 per ounce in 2011, despite increased supply levels.

Some areas have noted e-waste as worth processing for their metals: some developing nations collect as much as 80–90% of their electronic devices. Yet, much gold (and other precious metals) is still left behind in the dismantling process: only about 25% of the gold is recovered with “backyard” recycling processes, while 95% might be recovered at a highly technical e-waste recycling facility in a developed nation. Overall: only about 10–15% of the gold from these types of products is recovered, meaning that 85% remains in the devices.

Collective e-waste thus could provide a source of fairly concentrated metals that could be available for reuse. This recycling could avoid the impacts of new mining, save energy and water, and reduce the generation of other unwanted waste products (such as CO<sub>2</sub>). In addition, better recovery of these metals, which also includes cobalt, tin, copper, and palladium (in addition to gold and silver), as well as using the plastics for creating recycled products, helps protect against the unnecessary generation of health and environmental hazards when these products are discarded (i.e., in a landfill) or are dismantled improperly and without appropriate safety and environmental precautions. In regard to future use of natural mineral resources, Ruediger Kuehr, the Executive Secretary of the Solving the E-Waste Problem (StEP) Initiative, feels that we must become better at recovering these natural resources from our discarded electronics to continue to produce other products and devices in the future, such as flat-screen TVs, electric car batteries, solar cells, and more, and he feels we will wonder at how wasteful we were with these natural resources.