



**Department of Commerce  
Bureau of Industry Security**

**Notice of Inquiry Regarding Foreign Disposition of Certain Commodities  
83 FR 53411-53412 (October 23, 2018)**

**INTRODUCTION**

The Institute of Scrap Recycling Industries, Inc. (ISRI) <sup>i</sup> is pleased to submit the following comments in response to the Bureau of Industry and Security's (BIS) Notice of Inquiry Regarding Foreign Disposition of Certain Commodities, 83 FR 53411-53412 (October 23, 2018).

**SUMMARY**

ISRI has substantial concerns with the proposed export restrictions and reporting requirements on end-of-life electronics since these measures, if implemented, are neither a feasible nor an effective solution towards reducing or eliminating counterfeiting of components used in electronic goods. Electronic devices and their components are largely manufactured outside of the United States and distributed throughout the globe, all of which are access-points for counterfeiters. Furthermore, the reporting requirements would increase the administrative burden on U.S. manufacturers. Original equipment manufacturers already rely on, and routinely audit, established supply chains and also test components and devices for performance, compliance, and counterfeiting as part of their normal sourcing and product testing protocols. Moreover, this proposal fails to recognize the theft of electronic components at their original manufacturing sources – a problem that can only be addressed through increased security, auditing and testing along the supply chain by the original equipment manufacturers and the specifications set by their customers. Therefore, this proposal will serve no purpose and fails to recognize today's globally integrated manufacturing supply chains, distribution, retail and reverse logistic networks, nor take into account the global repair and recycling industries that extend the lifecycles of these products while also providing important technologies to poorer, developing country markets.

**U.S. SCRAP RECYCLING INDUSTRY SUPPLIES MAJOR ECONOMIC BENEFITS**

Recognized as one of the world's first green industries, the scrap recycling industry creates and supports jobs while also having a positive impact on the environment. In 2017, an independent economic analysis performed by John Dunham and Associates concluded that the scrap recycling industry in the United States is a significant contributor to the U.S. economy. Specifically, the study found that the people and firms that purchase, process, and broker recycled materials to be manufactured into new products support more than 530,000 well-paying jobs in the United States and generate \$117 billion annually in economic activity. These

workers earn \$34.3 billion in wages and benefits, while the industry pays \$13.2 billion in direct federal, state, and local taxes (excluding state, and local sales taxes).

### **SCRAP IS A GLOBAL COMMODITY**

The scrap commodities market has become increasingly global in recent decades. Figures from the United Nations Comtrade Database show that in 2017, exports of all scrap commodities generated around the world were valued at approximately \$105 billion. The United States is the largest exporter of recycled commodities, with 2017 exports totaling \$16.9 billion, and year-to-date (January through October) 2018 exports already totaling more than \$17 billion (18% higher than the same time-frame last year).

The globalized scrap market is a function of enhanced transportation and technological systems, the rising world population and increased urbanization, as well as the heightened awareness of the benefits of using scrap commodities given the earth's limited natural resources. Those benefits include not only the relatively lower price of scrap as compared to most other raw material inputs, but also the resulting energy savings and environmental benefits about which manufacturers and society at large are becoming increasingly mindful. As a result, global scrap usage is expected to register continued growth in the decades ahead as the confluence of demographic, climate, sustainable development, market, and technological changes provide even greater incentives to use recycled materials.

Scrap prices are subject to global market forces and can fluctuate daily, hourly, or even by the minute. Prices are set by the marketplace and reflect domestic and global manufacturing demands, changes in currency markets, transportation disruptions, energy prices, and the comparative cost and availability of virgin commodities. Scrap commodities, including used electronic products and their components, also move to where demand directs regardless of its original location. Scrap has become a key feedstock utilized in manufacturing new products worldwide and supplies a significant amount of global raw material needs. As a globally-traded commodity, scrap becomes less dependent on local supplies and local markets every day.

### **THE U.S. ELECTRONICS RECYCLING INDUSTRY IS GROWING**

The U.S. electronics recycling industry annually processes more than 5 million tons of used and end-of-life electronics equipment, such as cell phones, TVs, computers, copiers, fax machines, music players, copiers, and smart devices. More than 70 percent of the electronics collected and recycled here in the United States can be used as ingredients in the manufacture of new products. These end-of-life products are shredded and processed to yield valuable, useable materials, including steel, copper, aluminum, plastic, and glass. The other 30% of collected electronics are refurbished and resold as functioning electronic equipment both here in the United States and internationally.

The U.S. electronics recycling industry has shown tremendous growth over the past decade. This maturing segment of the scrap recycling industry provides a boost of approximately \$20.6 billion, including exports of \$1.45 billion, to the U.S. economy (up from less than \$1 billion in

2002) and employs more than 45,000 full time employees (up from 6,000 in 2002). The industry is driven by equipment collected from businesses and commercial interests, comprising up to 75 percent of the market on a volume basis. The electronics recycling industry is poised to meet the anticipated increased demand for more used products as well as the specification grade commodities that result from recycling end-of-life electronic goods.

**Your Old Computer Can Become New Again**

The U.S. electronics recycling industry annually processes more than 5 million tons of used and end-of-life electronics equipment – cell phones, TVs, computers, copiers, fax machines, music players, copiers, and even iPads! More than 70 percent of the electronics collected and recycled here in the United States can be sorted and used as ingredients in the manufacture of new products. Shredding or otherwise processing the electronics makes available the valuable materials contained within them – including steel, copper, aluminum, plastic, and glass. The rest are refurbished and resold as functioning electronic equipment both here in the United States and internationally.

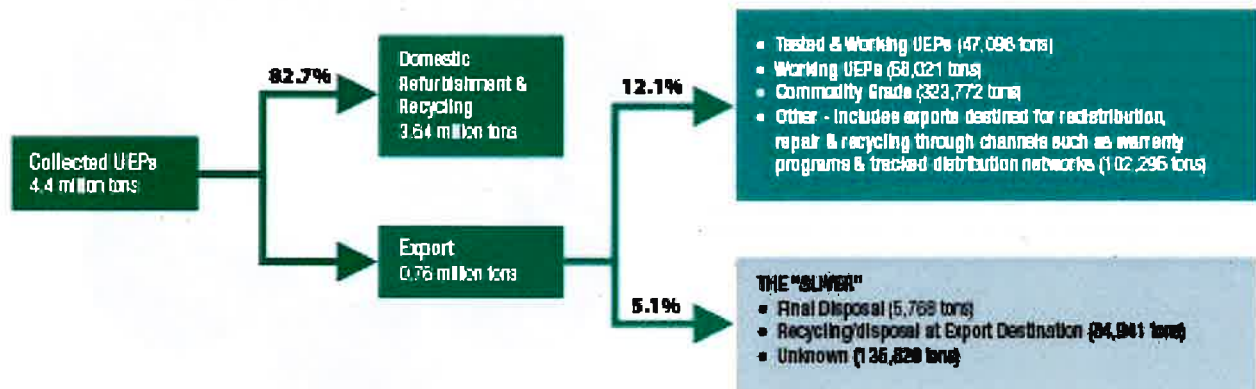
The U.S. International Trade Commission (USITC) published the most comprehensive report on the collection and export of Used Electronic Products (UEPs) in 2013 entitled “Used Electronic Products: An Examination of U.S. Exports.” The study found that the U.S. electronics recycling industry processed more than 4.4 million tons of used and end-of life electronics equipment annually, not including white goods. Of the used electronic products collected, the study found that 83 percent are reused and recycled domestically. ISRI estimates that the volume of electronics recycled in the United States now exceeds 5 million tons per year.

Sophisticated technology has helped electronics recyclers become highly efficient at recycling material into valuable, specification-grade commodities that re-enter the manufacturing stream as the basis for new products. For example, one metric ton of electronic scrap from personal computers contains more gold than that recovered from 17 tons of gold ore. Electronics recyclers also repair, refurbish, and resell functioning electronics equipment as used products into burgeoning domestic and international secondary-use markets. Companies also provide a number of logistical services, including collection, storage, and transportation as well as safely and securely scrubbing hard drives of sensitive personal and commercial data.

**MOST USED ELECTRONIC PRODUCTS ARE RECYCLED DOMESTICALLY**

While the U.S. electronics recycling industry is global, it processes the vast majority of domestically used products here in the United States. In fact, the USITC’s 2013 report found that more than 80 percent of the UEPs collected in the United States were recycled, reused, or

refurbished domestically while only 17 percent of UEPs were being sent for export. A subsequent report released by the Massachusetts Institute of Technology (MIT) Materials Systems Laboratory and the U.S. National Center for Electronics Recycling (NCER) in 2013 indicates that more than 90 percent of used electronics collected for recycling within the United States remain in the United States for processing and are not exported. The proponents of the proposed Secure E-Waste Export Recycling Act (SEERA) have often claimed that restricting the exports of used electronics from the United States would create economic opportunities at home, but as these studies show, already exists a very robust electronics recycling industry in the United States.



**THE ELECTRONICS AND RECYCLING INDUSTRIES ARE GLOBALLY INTEGRATED**

Electronics are used everywhere, and the vast majority of them are manufactured using a long sophisticated global supply chain that spans multiple countries before reaching their customers. The electronics industry will continue to innovate and create new products and services to customers worldwide, resulting in an increased need for a more global infrastructure to repair and recycle these products. Because electronics are manufactured, used, repaired, and recycled in nearly every country around the world, instituting a limit on the export of used electronic devices from the United States will do nothing to prevent counterfeiting of used components that may work their way back into the United States. Instead, doing so will only harm the health of the U.S. recycling industry and the effective disposition of these products. In other words, the global nature of the electronics manufacturing and recycling industries means that limiting the export of a ‘sliver’ of used electronics products will have no impact on reducing the counterfeiting of electronic components and products that could end up in the electronics that are used (whether for civilian or military purposes) in the United States.

Moreover, the newer sophisticated electronic products coming into more general use in the United States are also purchased and used in other regions, increasing the availability to counterfeiters. That is to say that a U.S. export prohibition of certain end-of-life electronics will not prevent products from other countries from reaching the hands of counterfeiters. Additionally, most electronic components are manufactured outside of the United States.

These manufacturers are primarily in Asia with relaxed intellectual property protections and enforcement, and thus, an easy supply for counterfeiters. This, too, makes the limitation of supplies of used electronics from the United States meaningless.

### **ORIGINAL EQUIPMENT MANUFACTURERS CONTINUOUSLY AUDIT SUPPLY CHAINS**

Original electronics manufacturers have highly integrated supply chains in many countries. In order to manufacture these innovative products, electronics manufacturers have established these supply chains to take advantage of economies of scale as well as pave the way for access to consumer markets. In many cases, components and products travel through several countries before final assembly and purchase. At the end of their original use, these same products often travel again across borders to be repaired for refurbishment or reuse in its form or harvested for their components and materials before being shipped again to new customers elsewhere.

Manufacturers routinely and continuously audit their supply chains to ensure the integrity and reliability of the inputs and components of their products. The audits involve rigorous testing and inspection of these components at every step of the manufacturing process. Such oversight is intended to prevent counterfeit components from entering supply chains at any one of hundreds if not thousands of points during the sourcing and manufacturing process, but it can occur. And since electronic devices and products are manufactured, used, repaired, refurbished and recycled in nearly every country, a counterfeiter can source new and used components from virtually anywhere, rendering a restriction on U.S. exports of used and non-working electronics ineffective.

### **CONGRESS PROVIDED SOLUTIONS TO STOP COUNTERFEITING**

In 2012, the Senate carefully and thoroughly investigated the counterfeiting of important electronic components that were sourced from a variety of global manufacturers for use in sensitive military applications. The U.S. military discovered that defective and counterfeit electronic components had entered into weapons systems, causing concerns about the integrity and reliability of those weapons systems and the ultimate safety of military personnel using the technologies. In addition to inspecting the functionality of these components, the Department of Defense (DOD) was concerned that weapons systems could have been breached through viruses installed onto electronic chips. More troubling, the DOD and Congress found that these defective and counterfeit components came from suppliers in a multitude of countries, including semi-conductor manufacturers with facilities located in Asia, the European Union and even the United States. These findings resulted in substantial changes to the way defense contractors sourced components for these sensitive weapons systems and other military equipment.

Following the investigation, a bi-partisan panel of Senators held hearings and enacted legislation to address this serious problem. It was already recognized that limiting the outflow

of used electronics from the United States was not an effective solution. Instead, the Congress ordered the DOD to promulgate rules and processes to protect the electronic inputs of vital military equipment and weapons including radars, airplanes, communications and missiles. The guidelines included requiring defense contractors to establish trusted supply chains, audit suppliers, avoid sourcing from certain suppliers, and test components throughout the manufacturing process.

This supervision is not unlike what consumer electronics manufacturers employ to ensure that their products are not compromised by defective or counterfeit parts. For example, Super Micro, a chip supplier to Apple and Amazon, audited their supply chain and found no evidence of counterfeit chips being inserted by Chinese spies during the manufacturing of motherboards for sensitive American technologies sourced by Apple and Amazon. The Department of Homeland Security said they had “no reason to doubt” Apple or Amazon.<sup>ii</sup>

### **CONGRESS RECOGNIZES THE IMPORTANCE OF GLOBAL TRADE**

For many years, attempts were made to restrict the export of used and end-of-life electronics legislatively through. However, Congress repeatedly discounted any need to act on the many versions of the proposed ‘Responsible Electronics Recycling Act’ (RERA) legislation understanding that restricting exports of used electronics would not result in more economic development at home, and instead of expanding economic opportunity, restricting exports would actually have the opposite effect. History has shown that export restrictions lead to lost U.S. jobs, reduced tax revenues, and a negatively impacted trade balance.

In addition, the environmental benefits associated with electronics recycling, including the reduced need to deplete natural resources, significant energy savings and reduced greenhouse gas emissions, and reduction in material being sent to landfills, would all be adversely affected by export controls. The free and fair trade of recycled commodities ensures that the maximum levels of economic and environmental benefits are captured. In addition, consumers of electronic scrap around the world benefit from access to global networks that would otherwise be too expensive to obtain. When there are no viable growth markets within the United States – either because the equipment is not fully functional, consumers want newer equipment or the secondary market is already saturated – recyclers export that equipment overseas for repair or recycling or export the recycled components for use in creating new products. This process extends the lifecycle of these products and their components while also generating jobs in these export-oriented segments of the recycling and refurbishment industry. Without these outlets, recyclers would be forced to dispose of these otherwise valuable products in the United States, thereby eliminating the need for more employees to collect, sort, process, refurbish and reuse the new products and commodities that come from recycling and refurbishment. In short, export restrictions result in fewer – not more – jobs in the United States.

## CHINESE IMPORT RESTRICTIONS

It is our understanding that the primary market of concern for counterfeit components supplies is China. Although we do not dispute this assertion, it is our belief that certain trade instruments already in place make it impossible for Chinese counterfeiters to obtain components from non-functioning, used electronics from the United States. The first is the *Basel Convention on the Transboundary Movement of Hazardous Wastes and their Disposal*, an international treaty that requires “prior informed consent” on goods categorized as hazardous under the convention’s guidelines that are intended for export (with additional restrictions placed on consignments from OECD countries to non-OECD countries). Many electronic goods fall under this category because of certain components or the characteristics of certain components that are deemed hazardous to human and environmental health. They are not forbidden for export under the convention, but the administrative requirement for such consignments to gain approval by the destination country can be so cumbersome as to effectively deter exports. As a further deterrent, the United States is not a party to the Basel Convention, thereby prohibiting such exports from the United States (an OECD country and non-party) to China (a non-OECD country and party to the Convention).

Secondly, China has since 2009 prohibited the import of end-of-life electronics, but it was a policy not well enforced. Therefore, in 2013, China announced “Operation Green Fence” in response to public perceptions that China was importing contaminated scrap and waste, including electronics, from abroad. In particular, there were reports that used electronics coming into China either languished in open dump sites or were recycled using primitive processes that caused harm to workers and the environment. “Green Fence” was intended to more stringently enforce existing import restrictions, and the more rigorous inspections engaged by Customs officials resulted in a decline of approved consignments of end-of-life electronics.

In 2017, the Chinese Government announced new measures to crack down on illegal imports and to impose additional bans of imported waste and scrap materials. Although the new import bans do not specifically target end-of-life electronics because these goods are already prohibited, China’s heightened scrutiny on all imports of scrap and waste also affected illegal imports of end-of-life electronics.

Taken together, these trade instruments have meant that the export of end-of-life electronics from the United States to China is so highly restrictive as to be prohibitive. Although it is difficult to know for sure because there are no unique Harmonized Tariff Codes for electronics waste and scrap to allow for adequate tracking, the administrative burden and risks of exporting such goods to China – combined with the robust opportunities for these goods’ use within the United States as already discussed – means such trade is already negligible. Furthermore, while supporters of the proposed RERA contend that export restrictions would prevent so-called “dumping” of electronics, in reality it is not economically feasible to transport end-of-life products to another country merely for disposal. At any rate, it is important to note that China’s import restrictions are imposed globally, further diminishing any supposed success of such an export restriction when other countries may also be a supply of such goods to China.

## **REPORTING REQUIREMENTS**

We acknowledge that the absence of specific harmonized tariff codes for electronic waste and scrap makes tracking such shipments a challenge. But the proposal to impose reporting requirements for exempted products via export license and recordkeeping would be so onerous an administrative process as to deter recyclers and exporters from seeking additional business overseas, thereby limiting opportunities for more jobs and reinvestment to grow their businesses. The absence of specific harmonized tariff codes could also encourage “fungibility” in the categorization of such goods, providing inaccurate data on the exports of exempted products.

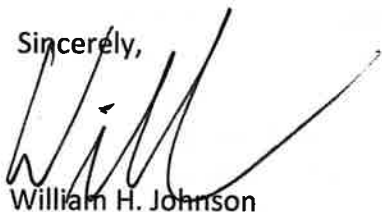
While the harmonization of codes with our existing free trade partners can be helpful in overcoming tariff and non-tariff barriers that impede trade, it is important to note that the stream of recycled electronics continues to change extremely quickly in response to evolving technologies and societal needs, which will impose high hurdles to efforts to successfully segregate acceptable from unacceptable electronic scrap exports. Especially in this era of government budget constraints, it would be extremely cumbersome and costly for federal authorities to determine which commodities would be exempt or fall under the monitoring and recordkeeping requirements envisioned under the notice of inquiry.

## **CONCLUSION**

ISRI recommends that the Bureau of Industry and Security not proceed with a regulation that would impose export restrictions on used electronics from the United States. Such restrictions would not eliminate counterfeit electronic components from entering the supply chains of consumer electronics or national security infrastructure given that these components are sourced from practically anywhere in the world. Original electronics equipment manufacturers and electronics refurbishers and recyclers will be unnecessarily adversely impacted by such restrictions that eliminate markets for secondary products and extracted scrap commodities, leading to job losses in these industries. Therefore, we respectfully recommend no further action on this matter.

Please let us know if we can provide any additional information or evidence for your examination.

Sincerely,



William H. Johnson  
Chief Lobbyist

Filed on December 21<sup>st</sup>, 2018



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<sup>i</sup> ISRI is the Voice of the Recycling Industry™, promoting safe, economically-sustainable, and environmentally-responsible recycling through networking, advocacy, and education. ISRI represents approximately 1,300 member companies operating more than 4,000 locations in the United States and 41 countries worldwide. ISRI members process, broker, and consume the entire range of recycled commodities including ferrous and nonferrous metals, recovered paper and fiber, tires and rubber, plastics, glass, electronics, and textiles. Our members range in size from small family-owned firms to large multinational corporations. ISRI promotes the best interests of the recycling industry; fostering the trade and commerce of its members; promoting free and fair trade; and aiding the industry by seeking to eliminate abusive and disruptive business practices and unfair competition. Headquartered in Washington, DC, ISRI raises public awareness of the vital role recycling plays in the economy, global trade, the environment, and sustainable development. ISRI members benefit from a wide array of services including: safety and compliance training; networking and education; market research and reporting; regulatory and legal information; industry-specific publications; and industry representation. For more information, visit [ISRI.org](http://ISRI.org).

<sup>ii</sup> Super Micro Says It Found No Secret Spy Chips on Motherboards, Contradicting Bombshell Report, Matt Novak, Gizmodo, December 11, 2018: <https://gizmodo.com/super-micro-says-no-secret-spy-chips-found-on-motherboa-1831008409>.

