

**EXPORTING TOXIC TRASH: ARE WE DUMPING  
OUR ELECTRONIC WASTE ON POORER  
COUNTRIES?**

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**HEARING**

BEFORE THE

SUBCOMMITTEE ON ASIA, THE PACIFIC, AND  
THE GLOBAL ENVIRONMENT

OF THE

COMMITTEE ON FOREIGN AFFAIRS  
HOUSE OF REPRESENTATIVES

ONE HUNDRED TENTH CONGRESS

SECOND SESSION

—————  
SEPTEMBER 17, 2008  
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**Serial No. 110-230**  
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Printed for the use of the Committee on Foreign Affairs



Available via the World Wide Web: <http://www.foreignaffairs.house.gov/>

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U.S. GOVERNMENT PRINTING OFFICE

44-529PDF

WASHINGTON : 2008

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## **EXPORTING TOXIC TRASH: ARE WE DUMPING OUR ELECTRONIC WASTE ON POORER COUNTRIES?**

**WEDNESDAY, SEPTEMBER 17, 2008**

HOUSE OF REPRESENTATIVES,  
SUBCOMMITTEE ON ASIA, THE PACIFIC,  
AND THE GLOBAL ENVIRONMENT,  
COMMITTEE ON FOREIGN AFFAIRS,  
*Washington, DC.*

The subcommittee met, pursuant to notice, at 2:03 p.m. in room 2172, Rayburn House Office Building, the Honorable Eni F. Faleomavaega (chairman of the subcommittee) presiding.

Mr. FALEOMAVAEGA. The House Foreign Affairs Subcommittee on Asia, the Pacific, and the Global Environment will come to order.

This afternoon the subcommittee is conducting a hearing concerning electronic waste being exported from this country to developing nations. And we are very, very delighted that we have Mr. Stephenson representing the General Accountability Office, to testify on their report the GAO had recently provided to the Congress.

I know my good friend and the ranking member of this subcommittee, Mr. Manzullo from Illinois, will be on his way. But I will go ahead and begin the hearing with my opening statement.

We live in a digital age that moves at a dizzying pace. We surround ourselves with dozens of electronic gadgets, such as computers, Blackberries, and cell phones; and it is difficult to imagine life without these crucial tools to help us process information and communicate.

The overwhelming speed at which technology develops requires that we constantly update our machines. We get new, faster, and fancier products to replace our old units, which seem woefully out of date shortly after they are purchased.

As we continually upgrade, we face the question of what to do with our outgoing electronics, as there is a growing understanding that our old method of filling up landfills with the products we discard is both unsustainable and potentially hazardous, as many products can leach poison into the ground.

In response to these environmental concerns, individuals and institutions are recycling their old computers and other machines in new ways, especially as they recognize the environmental benefit of reusing and recycling electronic parts.

With new opportunities to export old machines so that they can be used in poorer countries, many consumers get tremendous satisfaction knowing that their old personal computers may help some-

one in a developing country learn computer skills, or connect to the Internet perhaps for the first time.

But this positive trend of recycling so-called electronic waste, or e-waste, has a disturbing downside. Non-governmental organizations and others have monitored a growing trend of electronic waste being exported to poorer countries, where, instead of being recycled responsibly or reused, it is stripped down and dumped, causing dangerous environmental and health damage. Horrifying photos and accounts document how electronic waste is sent to countries, mostly in Asia, where poor workers are paid a pittance to scavenge electronic parts for valuable metals such as gold, silver, and copper.

To shed greater light on this important issue and what role the United States is playing in the worldwide export of electronic waste, the Foreign Affairs Committee asked the Government Accountability Office to investigate what happens to electronic waste that is exported from the United States, and what the U.S. Government is doing to prevent unlawful and potentially harmful electronic waste exports.

I commend the late chairman, Mr. Tom Lantos, of the Foreign Affairs Committee, and also our new chairman, the Hon. Howard Berman, and our ranking member, Congresswoman Ileana Ros-Lehtinen, for their leadership and initiative regarding this important matter.

GAO's findings are troubling. GAO found that the trend of exporting electronic waste to be disposed of in poorer countries, under harmful conditions, is widespread and growing. Countries in Asia and Africa are fast becoming dumping grounds for the poisonous waste that the United States does not want in its own landfills.

Also, the methods for stripping electronic waste in poorer countries involve open flames, acid baths, and other techniques that release poisons that harm the health of the workers. After the parts are picked apart, the remaining materials are left in an open pit, where more poisons seep into the ground, harming the surrounding environment and the people living in the vicinity.

As a result, men, women, and children already in difficult situations are being exposed to dangerous levels of toxins, whether they are actively involved in stripping electronic waste, or simply if they are unfortunate enough to live in an area where such activities take place.

The most insidious players in this game of dumping electronic waste abroad are companies that claim to specialize in safely recycling waste electronics, but in fact illicitly dispose of electronic waste in developing countries. These companies essentially trick well-meaning consumers into thinking they are doing the right thing by recycling their electronics.

In fact, GAO gave examples of companies that hold Earth Day events to collect used computers and other electronics for recycling, only to turn around and send the equipment overseas for a quick buck.

It is important to note that there are some recycling centers around the world that handle electronic waste in a responsible and safe manner. But the concern is that the already massive amount of improperly handled electronic waste will only grow with time,

and the issue of harmful e-waste exports is likely to grow, get worse before it gets better.

GAO notes that because of the eventual switch to high-definition televisions and radios in the United States, we will soon produce dramatically more electronic waste that may be sent abroad. In addition, high commodity prices that make stripping e-waste for metal profits profitable means that we are likely to encounter more and more companies eager to exploit opportunities by bringing e-waste to less-developed countries in the future.

Of most concern is GAO's negative assessment of U.S. efforts to prevent this activity. The U.S. has some of the weakest, and I want to repeat, the weakest export controls of hazardous waste of any industrialized country.

The GAO notes that the U.S. limits export controls of e-waste only to so-called CRT, or cathode ray tubes, that are found in computer monitors and televisions. Other electronics that also pose a potential danger if they are improperly disposed of abroad have no controls whatsoever. Not only are U.S. exports rules narrow, they are being poorly enforced, and are easily circumvented.

GAO shows with compelling evidence that companies that want to ignore our export rules on e-waste have no fear of doing so. Indeed, the GAO will no doubt explain during the few months of their investigation, GAO conducted more enforcement activities against suspect companies than the Environmental Protection Agency had conducted to date.

We look forward to hearing from the GAO's foremost expert on this topic about the findings in their important report, as well as their recommendations for how we can better prevent American electronic waste from poisoning people in poorer countries around the world.

I would also like to note for the record, and submit this for the record, without objection, a copy of House Resolution 1395 that was introduced 2 months ago by our colleague, Congressman Gene Green, along with other Members of the House who were co-sponsors of this House Resolution: Congressman Thompson, Honda, Butterfield, Mr. Waxman, Ms. Johnson, and Ms. Lofgren.

I want to note particularly some of the findings, or at least the notes taken under this House Resolution 1395. It has been referred to the Committee on Energy and Commerce. And it mentions that televisions with cathode ray tubes contain between four and 15 pounds of lead, a toxic substance known to cause brain damage to children.

Note also that many laptops, flat-panel monitors, and televisions contain fluorescent lamps that contain mercury, a dangerous neurotoxin.

Also note that many electronic products contain toxic chemicals such as lead, mercury, beryllium, cadmium, chromium, and ruminated flame retardants.

Note also that approximately 2,630,000 tons of used or unwanted electronics were discarded in the United States 3 years ago, according to the EPA.

Note also that approximately 330,000 tons of electronic waste were collected and diverted from landfills for reuse or recycling 3 years ago, again according to the EPA.

Note also that an estimated 50 percent to 80 percent of electronic waste collected for reuse or recycling is exported to countries such as China, India, Ghana, Nigeria, Pakistan, and Thailand, according to the Department of Commerce. Approximately 131,500 tons of lead-containing CRTs were exported, representing 75 percent of the CRTs supposedly collected for recycling, according again to the EPA.

Congress has required the nation's broadcasters to convert from analog to digital broadcasting starting, beginning February of next year, a move which will render millions of analog CRT televisions obsolete for broadcasting, and likely to be discarded. Again, exported electronic waste is often crudely scrapped and dismantled under conditions that are dangerous for human health and the environment in developing countries, according to eyewitnesses reported by the Basel Action Network and several media outlets, including the National Geographic Magazine.

The Resolution also notes that toxic lead from exported electronic waste has returned to the United States as a public health threat, in children's jewelry made in China, according to a study by the Ashland University, reported by the Wall Street Journal.

Note also that the Consumer Product Safety Commission has issued multiple recall notices for jewelry and toys made in China for children, that contain dangerous levels of lead. Thirty-two nations, including the member states of the European Union, have banned the export of toxic electronic waste to developing countries.

The Resources, Conservation, and Recovery Act of 1976, as amended, prohibits the export of hazardous waste from the United States to other nations, unless EPA—and note this—unless EPA obtains prior written permission from the other nation's competent authority.

E.P.A also has determined that much electronic waste is excluded or exempted from the definitions of waste, of the word waste, or the phrase hazardous waste, under the Resource Conservation Recovery Act of 1976.

I just wanted to share that with my colleagues. And without objection, this copy of House Resolution 1395 will be made part of the record.

Also note that, without objection, a copy of an article that appeared in the Washington Post, dated September 17 this year by Julia Halperin, again bringing out the problems that we are faced with, and what we are doing in exporting electronic waste to other countries.

Also for the record, a letter submitted by Mr. Mark Small, the vice president of the Environment Safety and Health Division of Sony Electronics, that is dated 15 September, 2008.

With that, I want to give the time now to my distinguished ranking member of our subcommittee, the gentleman from Illinois, for his opening statement. Mr. Manzullo.

[The prepared statement of Mr. Faleomavaega follows:]

PREPARED STATEMENT OF THE HONORABLE ENI F.H. FALEOMAVAEGA, A REPRESENTATIVE IN CONGRESS FROM AMERICAN SAMOA, AND CHAIRMAN, SUBCOMMITTEE ON ASIA, THE PACIFIC, AND THE GLOBAL ENVIRONMENT

We live in a digital age that moves at a dizzying pace. We surround ourselves with dozens of electronic gadgets such as computers, blackberries, and cell phones,



and it is difficult to imagine life without these crucial tools to help us process information and communicate.

The overwhelming speed at which technology develops requires that we constantly update our machines. We get new, faster and fancier products to replace our old units, which seem woefully out of date shortly after they are purchased.

As we continually upgrade, we face the question of what to do with our outgoing electronics as there is a growing understanding that our old method of filling up landfills with the products we discard is both unsustainable and potentially hazardous, as many products can leach poisons into the ground. In response to these environmental concerns, individuals and institutions are recycling their old computers and other machines in new ways, especially as they recognize the environmental benefit of reusing and recycling electronic parts.

With new opportunities to export old machines so that they can be used in poorer countries, many consumers get tremendous satisfaction knowing their old PC may help someone in a developing country learn computer skills or connect to the internet, perhaps for the first time. But this positive trend of recycling so-called "electronic waste"—or e-waste—has a disturbing downside.

NGOs, and others, have monitored a growing trend of e-waste being exported to poorer countries where instead of being recycled responsibly, or reused, it is stripped down and dumped, causing dangerous environmental and health damage. Horrifying photos and accounts document how e-waste is sent to countries, mostly in Asia, where poor workers are paid a pittance to scavenge electronics parts for valuable metals, such as gold, silver, and copper.

To shed greater light on this important issue and what role the United States is playing in the worldwide export of e-waste, the Foreign Affairs Committee asked the Government Accountability Office to investigate what happens to e-waste that is exported from the United States, and what the US government is doing to prevent unlawful and potentially harmful e-waste exports. I commend the late Chairman Tom Lantos of the Foreign Affairs Committee and also our new Chairman, the Honorable Howard Berman, and our Ranking Member Congresswoman Ileana Ros-Lehtinen, for their leadership and initiative regarding this important matter.

GAO's findings are troubling. GAO found that the trend of exporting e-waste to be disposed of in poor countries under harmful conditions is widespread and growing. Countries in Asia and Africa are fast becoming dumping grounds for the poisonous waste that the U.S. does not want in its own landfills.

Also, the methods for stripping e-waste in poor countries involve open flames, acid baths and other techniques that release poisons that harm the health of the workers. After the parts are picked apart, the remaining materials are left in an open pit, where more poisons seep into the ground, harming the surrounding environment and the people living in the vicinity. As a result, men, women and children, already in difficult situations, are being exposed to dangerous levels of toxins, whether they are actively involved in stripping e-waste or simply if they are unfortunate enough to live in an area where such activities take place.

The most insidious players in this game of dumping e-waste abroad are companies that claim to specialize in safely recycling waste electronics, but in fact illicitly dispose of the e-waste in developing countries. These companies essentially trick well-meaning consumers into thinking they are doing the right thing by recycling their electronics. In fact, GAO gives examples of companies that hold "Earth Day" events to collect used computers and other electronics for recycling, only to turn around and send the equipment overseas for a quick buck.

It is important to note that there are some recycling centers around the world that handle e-waste in a responsible and safe manner. But the concern is that the already massive amount of improperly handled e-waste will only grow with time, and the issue of harmful e-waste exports is likely to get worse before it gets better.

GAO notes that because of the eventual switch to high definition televisions and radios in the U.S., we will soon produce dramatically more e-waste that may be sent abroad. In addition, high commodity prices that make stripping e-waste for metals profitable means we are likely to encounter more and more companies eager to exploit opportunities by bringing e-waste to less developed countries in the future.

Of most concern is GAO's negative assessment of U.S. efforts to prevent this activity. The U.S. has some of the weakest export controls of hazardous waste of any industrialized nation. The GAO notes that the U.S. limits export controls of e-waste only to so-called CRTs (or cathode ray tubes) that are found in computer monitors and televisions. Other electronics that also pose a potential danger if they are improperly disposed of abroad have no controls whatsoever.

Not only are U.S. export rules narrow, they are being poorly enforced and are easily circumvented. GAO shows with compelling evidence that companies that want to ignore our export rules on e-waste have no fear of doing so. Indeed, as GAO will

no doubt explain, during the few months of their investigation, GAO conducted more enforcement activities against suspect companies than the Environmental Protection Agency had conducted to date.

We look forward to hearing from the GAO's foremost expert on this topic about the findings in their important report, as well as their recommendations for how we can better prevent American e-waste from poisoning people in poorer countries around the world.

I now recognize our Ranking Member, my good friend, Mr. Manzullo, for his opening remarks.

Mr. MANZULLO. Thank you, Chairman, for calling this very important hearing.

We have a serious problem that deserves our attention, given the size and the scope of the issue. With personal electronics ever more common in our lives, it is critical that industry and government work together to develop a system for end-of-product-life management that not only protects the environment, but boosts manufacturing at the same time.

Stopping the illegal exports of hazardous electronic waste must be addressed through stronger enforcement actions by regulatory agencies.

The GAO report offers a stark view of the consequences of unregulated exports of hazardous waste, and we call on the administration to do its utmost to make sure that broken cathode ray tube TVs are not exported without the proper notification and consent.

I strongly believe the most effective way of preventing the illegal export of hazardous electronic waste is by partnering with industry to remove the excess supply of such waste from the marketplace.

It is important to recognize that if handled correctly, electronic waste can be recycled and reused effectively. For example, both Dell and Hewlett-Packard have programs that allow consumers to dispose of unwanted computers, monitors, and other electronic products. These manufacturers have created a system to safely refurbish or recycle electronic waste.

Both companies utilize accredited facilities to reduce unwanted electronics to their component parts so that valuable commodities can be reused. In 2007, Dell reported that it safely recycled 102 million pounds of equipment.

As a champion of American manufacturing, I believe it is our duty to partner with the hard-working men and women who make these products, to find common-sense solutions to dispose of electronic waste.

Some proposals outlined in the GAO report, while well-intentioned, may do little to ensure the proper management of electronic waste, while adversely hurting the manufacturing industry.

For example, by expanding the definition of hazardous to include all electronic products that pose even a remote risk when disassembled will do little to ensure these products are not mismanaged overseas. However, it will ensure that additional costs are added to manufacturing, transport, and marketing of these products; thus, making products made in the U.S. more expensive and cheap imports even cheaper.

Enforcing the CRT rule is a more effective way to prevent export of hazardous electronic waste than the creation of more complicated regulations. Last July, I introduced the Export Controls Improvement Act, H.R. 6828, with Representatives Brad Sherman

and Adam Smith, to strengthen controls on sensitive exports, while allowing legitimate trade to flow uninhibited across borders. If passed, this legislation will ensure that freight forwarders and other exporters have access to a comprehensive electronic system that cross-references their shipment manifests with a government-managed list of prohibited or controlled export products.

The Automated Export System (AES), which already exists today, holds tremendous potential for enforcement of the CRT rule. The AES system can be programmed to flag shipments of CRT products for further inspection by Customs and Border Patrol agents. If H.R. 6828 becomes law, it would become more difficult to circumvent American export laws, because a violation would be known to the shipper even before the item leaves the docks of the manufacturer.

Encouraging developing nations to adopt better waste-management and environmental regulations must also be a priority in addressing the impact of e-waste.

Chairman, the problem is not only in exports, but trying to dispose of our own domestic e-waste. I mean, we must have 10 units between our home in Washington and Illinois, and we just don't know where to dispose of them. We have seen TV ads, gone to 800 numbers, gone to Web sites. I would defy anybody, if you want to dispose of e-waste, I mean, we can't even dispose of it domestically. I mean, there is no program to dispose of it domestically, or one that we know about.

Mr. FALEOMAVAEGA. If the gentleman will yield.

Mr. MANZULLO. Of course. I am done.

Mr. FALEOMAVAEGA. We can't even dispose of nuclear waste. The poor State of Nevada has to take all the weight in terms of all the nuclear waste that we are unable to take care of that danger.

Mr. MANZULLO. At least they aren't sending it to American Samoa. Right.

Mr. FALEOMAVAEGA. And how 43 states are about to transport their nuclear waste, whether it be by train or buses or trucks or airplane. I mean, I can just imagine the hazards just to transport nuclear waste.

And the thing that strikes me, my colleague from Illinois, is the fact that the European Union countries have already applied very strict rules for the exportation of electronic waste. And it seems that we are not doing the same. And I am looking forward to asking a couple of these questions to our distinguished guests.

Mr. MANZULLO. I want our guests to know that I am not being critical. Your job is to lay out all the alternatives, good, bad, and the ugly. You don't claim responsibility for any of them. Thank you.

[The prepared statement of Mr. Manzullo follows:]

PREPARED STATEMENT OF THE HONORABLE DONALD A. MANZULLO, A  
REPRESENTATIVE IN CONGRESS FROM THE STATE OF ILLINOIS

Mr. Chairman, thank you for calling this important hearing regarding the environmental impact of mismanaged electronic waste exports. This is a serious problem that deserves our attention given the size and scope of the issue. With personal electronics ever more common in our lives, it is critical that industry and government work together to develop a system for end-of-product-life management that not only protects the environment but boosts manufacturing.

Stopping the illegal export of hazardous electronic wastes must be addressed through stronger enforcement actions by regulatory agencies than is currently being

done. The Government Accounting Office (GAO) report offers a stark view of the consequences of unregulated exports of hazardous electronic waste. I call on the Administration to do its utmost to ensure that broken cathode ray tube (CRT) televisions are not exported without the proper notification and consent.

Mr. Chairman, I strongly believe that the most effective way of preventing the illegal export of hazardous electronic waste is by partnering with industry to remove the excess supply of such waste from the marketplace. It is important to recognize that if handled correctly, electronic waste can be recycled and reused effectively. For example, both Dell and Hewlett-Packard have programs that allow consumers to dispose of unwanted computers, monitors, and other electronic products. These manufacturers have created a system to safely refurbish or recycle electronic waste. Both companies utilize accredited facilities to reduce unwanted electronics to their component parts so that valuable commodities can be reused. In 2007, Dell reported that it safely recycled 102 million pounds of equipment.

As a champion of American manufacturing, I believe it is our duty to partner with the hardworking men and women who make these products to find commonsense solutions to dispose of electronic waste. Some proposals outlined in the GAO report, while well intentioned, may do little to ensure the proper management of electronic waste while adversely hurting the manufacturing industry. For example, by expanding the definition of "hazardous" to include all electronic products that pose even a remote risk when disassembled will do little to ensure these products are not mismanaged overseas. However, it will ensure that additional costs are added to the manufacturing, transport, and marketing costs of these products.

Enforcing the CRT rule is a more effective mean to prevent export of hazardous electronic waste than the creation of more complicated regulation. Last July, I introduced the *Export Controls Improvement Act* (H.R. 6828) with Representatives Brad Sherman and Adam Smith to strengthen controls on sensitive exports while allowing legitimate trade to flow uninhibited across borders. If passed, this legislation will ensure that freight forwarders and other exporters have access to a comprehensive electronic system that cross references their shipment manifests with a government managed list of prohibited or controlled export products. The Automated Export System (AES), which already exists today, holds tremendous potential for enforcement of the CRT rule. For example, the AES system can be programmed to flag shipments of CRT products for further inspection by Customs and Border Patrol agents. Thus, it would become more difficult to circumvent American export laws if H.R. 6828 becomes law.

Encouraging developing nations to adopt better waste management and environmental regulations must also be a priority in addressing the impact of e-waste. Since a comprehensive ban on all electronic waste exports is unrealistic and counterproductive, it is incumbent upon the Administration to engage foreign governments to stop abusive practices. For example, Chinese authorities must do more to end the open burning of electronic waste to recover commodity parts. Just as in the climate change debate, developing countries must also contribute their fair share to protect the environment. Even membership in the Basel Convention on Hazardous Waste has done little to encourage countries like China and India to crackdown on polluters.

With regard to the Basel Convention, it is important to point out that the United States ratified the convention 16 years ago, but has not acceded to the Convention because implementing legislation has not passed. Hopefully, this can be changed in the 111th Congress. Nevertheless, I firmly believe that there are faster ways to deal with the scourge of hazardous electronic waste exports. We can act now and effectively by passing AES reform.

Again, thank you and I look forward to the testimony of the witnesses.

Mr. FALEOMAVAEGA. Thank you, gentleman from Illinois.

The gentlelady from California for her opening statement.

Ms. WATSON. Thank you so much, Mr. Chairman, for holding this hearing.

Over the past two and one-half decades, we have been witnesses to an incredible information revolution that has brought us the personal computer, the Internet, cellular phones, to name a few of the more pervasive forms of the new technology.

But a dangerous new waste stream, electronic waste, is a toxic byproduct of this revolution. Americans and other consumers and businesses in the developed world are the major contributors of e-

waste. The problem is exacerbated by our addiction to the latest technology, as we discard old computers and cell phones for the newest technology, on average every 3 to 5 years.

The United Nations estimates roughly 20 million to 50 million tons of e-waste are generated worldwide annually. Seventy percent of this e-waste is illegally dumped or reprocessed in either Asia or Africa.

In many instances the discarded computers and cell phones are cannibalized for valuable materials in scrap yards, under often primitive conditions where workers, men, women, and often children, are exposed to toxic materials contained in computers and cell phones. These materials, including lead and mercury, plastic and cadmium, just to name a few, they pollute the water, the soil, the air, creating wide swathes of toxic sites throughout Asia and Africa.

In one instance, the pollution from e-waste has become so pervasive that the well water in the area of China, Guangdong Province, is no longer drinkable. Fresh water now must be trucked in for the entire population, from as far away as 30 kilometers.

As one observer noted, we have found a cyber-age nightmare. What is most troubling to me is the fact that the United States Government has done very little to address the problem of e-waste exports that is largely of our nation's and other industrialized nations' making.

For example, the U.S. is the only developed country in the world that has failed to ratify the Basel Convention, a United Nations environmental treaty that bans the export of hazardous waste from the world's most developed nations to developing nations.

It is my understanding that the U.S. has exempted electronic waste from the nation's export laws, because the material is claimed to be destined for recycling. The United States Government also fails to hold U.S. manufacturers responsible for the end-of-life management of their products that contain an abundance of hazardous and toxic materials.

So Mr. Chairman, I am so pleased to see that the subcommittee today will hear testimony from Mr. Stephenson of the GAO, with his just-completed report on electronic waste. And the title of the GAO report best sums up the current predicament. Electronic waste: EPA needs to better control harmful U.S. exports through stronger enforcement and more comprehensive regulation.

So I look forward to Mr. Stephenson's testimony and learning more about the EPA and other responsible government agencies, and how they can stem the practice of U.S. companies that are exporting items to developing countries where unsafe recycling practices can cause serious health and environmental problems.

Thank you so very much, Mr. Chairman.

[The prepared statement of Ms. Watson follows:]

PREPARED STATEMENT OF THE HONORABLE DIANE E. WATSON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Over the past two and one half decades, we have been witness to an incredible information revolution that has brought us the personal computer, the Internet, and cellular phones, to name a few of the most pervasive forms of the new technology. But a dangerous new waste stream, electronic waste (or e-waste), is the toxic by-product of this revolution. Americans and other consumers and businesses in the

developed world are the major contributors of e-waste. The problem is exacerbated by our addiction to the latest technology, as we discard old computers and cell phones for the newest technology on average every 3 to 5 years.

The United Nations estimates roughly 20 million to 50 million tons of e-waste are generated worldwide each year. 70 percent of this e-waste is illegally dumped or re-processed in either Asia or Africa. In many instances, the discarded computers and cell phones are cannibalized for valuable materials in scrap yards under often primitive conditions where workers—men, women, and often children—are exposed to toxic materials contained in computers and cell phones. These materials—including lead, mercury, plastic, and cadmium, to name a few—pollute the water, soil, and air, creating wide swaths of toxic sites throughout Asia and Africa. In one instance, the pollution from e-waste has become so pervasive that the well water in an area of China (Guiyu in Quandong Province) is no longer drinkable. Fresh water now must be trucked in for the entire population from as far as 30 kilometers away. As one observer noted, we have found a cyber age nightmare.

What is most troubling to me is the fact that the United States Government has done very little to address the problem of e-waste exports that is largely of our nation's and other industrialized nations' making. For example, the United States is the only developed country in the world that has failed to ratify the Basel Convention, a United Nations environmental treaty that bans the export of hazardous wastes from the world's most developed nations to developing nations. It is my understanding that the U.S. has exempted electronic wastes from the nation's export laws because the material is claimed to be destined for recycling. The U.S. Government also fails to hold many U.S. manufacturers responsible for the end of life management of their products that contain an abundance of hazardous and toxic materials.

Mr. Chairman, I am pleased to see that the Subcommittee today will hear testimony from Mr. Stephenson of the GAO, which has just completed a report on electronic waste. The title of the GAO report best sums up the current predicament: "Electronic Waste: EPA Needs to Better Control Harmful U.S. Exports through Stronger Enforcement and More Comprehensive Regulation."

I look forward to Mr. Stephenson's testimony and learning more about how the EPA and other responsible governmental agencies can stem the practice of U.S. companies that are exporting items to developing countries where unsafe recycling practices can cause serious health and environmental problems.

Mr. FALEOMAVAEGA. I thank the gentlelady for her opening statement.

The gentleman from New Jersey.

Mr. SIRES. Mr. Chairman, I will be very brief. But I don't think we have to go very far to look at e-waste. Just look around your house. You probably have three or four old phones and wires and everything else.

But my state just recently enacted an e-waste legislation. And it was talked about for many, many years, but they only acted on it last year. And they have a number of sites. But it took a while to get there. And I am curious to hear what Mr. Stephenson has to say on how we can deal with this issue.

Thank you very much for having this hearing.

Mr. FALEOMAVAEGA. I thank the gentleman from New Jersey.

We have with us as our main and only witness before the subcommittee Mr. John Stephenson, who is the Director of the Natural Resources and Environmental Division of the U.S. Government Accountability Office. In this capacity he has served for approximately 8 years. His work has provided assistance to the Congress in its oversight administrative role in diverse environmental protection issues, such as clean air, clean water, safe drinking water, chemical controls, toxic substances, climate change, superfund and hazardous materials. Quite an assortment.

He has also led numerous GAO studies and investigations in information technology, Federal acquisition, and Federal grant areas. Also served as Deputy Staff Director on the Senate Special Com-

mittee for the year 2000 technology problems, under the chairmanship of Senator Robert Bennett from Utah. Conducted over 35 hearings. A graduate in industrial management from Purdue University; also with an MBA from Xavier University, and a graduate of the Harvard School of Government Senior Executive Fellows Program.

Mr. Stephenson, welcome, and please proceed.

**STATEMENT OF MR. JOHN B. STEPHENSON, DIRECTOR, NATURAL RESOURCES & ENVIRONMENT, U.S. GOVERNMENT ACCOUNTABILITY OFFICE**

Mr. STEPHENSON. Thank you, Mr. Chairman. Nobody has ever read my full resume like that.

Mr. FALEOMAVAEGA. Well, you deserve it. You come here not only highly recommended, but we thought that the report that you have produced in this report, I think it, I hope every member of my colleagues will read this report, and make it something that I hopefully maybe even work with my good friend, the ranking member.

I think this no longer requires some form of regulation; it needs some kind of a statutory mandate to make sure that EPA has to do this work. Otherwise, we are just going to be nudging and doing nothing. And I think really we need to do this a lot better.

Mr. Stephenson, please.

Mr. STEPHENSON. Thank you, Mr. Chairman and members of the subcommittee.

I am pleased to be here to present the findings of a new report that we are releasing today on electronic waste exports. All the summaries have been very good of the report. Our bottom line is we have a serious problem in this country, in that much of our exported electronic wastes are harming individuals, often children, overseas.

As a nation, we have fewer controls on these types of exports than almost all other industrialized countries. And even those limited controls are not being enforced by the Environmental Protection Agency.

Americans discard more than 300 million computers and other electronics annually, and this number is growing exponentially, as many of you have mentioned. The cost of technology decreases, the frequency of replacement increases, we don't know what to do with our old computers.

These devices contain valuable materials, such as copper and gold that can be reclaimed through recycling at a fraction of the cost of the raw materials. But they also contain toxic substances, such as lead, mercury, and cadmium, that can harm human health and the environment if disposed of or recycled improperly.

The surplus of used electronics in developed countries like the United States combined with the need for raw materials in developing countries like China have led to a thriving international trade in used or recycled electronics, primarily in Southeast Asia. As the market for used electronics grows, concerns are mounting that not all of it is recycled properly.

Our reporter addresses the fate of these used electronics exported from the U.S., and the effectiveness of export controls. We found that while some used electronics exported from the United States

are handled responsibly in countries, with effective regulatory controls and by companies by advanced technologies in, for example, Malaysia, the vast majority are dismantled in developing countries under unsafe conditions, such as burning of wire to recover copper and open acid baths for separating metals. Thereby it is exposing people to lead and other hazardous materials.

In particular, as China's growing economy has driven the demand for raw materials, there is a reliance on the inexpensive labor and lax environmental controls in surrounding countries, like Indonesia and Cambodia, to help meet this demand.

We also found that EPA regulations for hazardous waste have not prevented the export of potentially hazardous used electronics. Most used electronics flow virtually unrestricted from the United States. EPA regulations currently control only the export of used CRTs, or cathode ray tubes, making U.S. export controls among the weakest in the world, as has already been mentioned.

Internationally, the Basel Convention, an outgrowth of the United Nations environmental program, in 1989 established an international legal regime governing the export of hazardous waste. Basel stipulates that a country may ship hazardous waste only after receiving prior consent from the receiving country.

The convention has been ratified by 170 countries, including virtually all of the industrialized countries except for the U.S.

Despite adoption of the CRT rule in 2006, the export of CRTs from the United States, in apparent violation of the rule, seems widespread. In the course of our investigation we posed as fictitious buyers from Hong Kong, India, Pakistan, Singapore, and Vietnam, among other countries. We found 43 electronics recyclers in the United States who were willing to export to us broken, untested, or non-working CRTs, with little concern about the CRT rule.

EPA records show that none of the recyclers willing to sell us had filled proper notifications of their intent to export CRTs for recycling, as is required by the CRT rule for actual shipments.

Additionally, nearly all of them touted their environmentally friendliness on their Web sites, and three of them actually held community recycling events on Earth Day 2008.

We also found that EPA has taken few steps to enforce the CRT rule. Since the rule took effect in January 2007, for example, Hong Kong has intercepted and returned to the United States 26 shipping containers of used CRT monitors, because Hong Kong officials said these exports violate their hazardous waste import laws.

Under the CRT rule, these shipments are considered illegal hazardous waste exports, because the U.S. exporter did not notify EPA. Such exporters could be subject to administrative or criminal penalties.

Nonetheless, EPA did not issue its first administrative penalty complaint against the company until July 2008, and this penalty came as a result of a problem that we identified, not them.

EPA acknowledges the existence of compliance problems with the CRT rule, but the agency has done little to ascertain the extent of non-compliance. Moreover, EPA officials told us during our investigation that there were no plans or no timetables for developing the basic components of an enforcement strategy, such as enforce-



ment targets, monitoring, or follow-up of suspected violations and prosecution.

In conclusion, Mr. Chairman, our report calls for EPA to, as a minimum, begin enforcing the CRT rule. In addition, our report recommends that EPA expand hazardous waste regulations under RCRA to ensure that other exported used electronics, such as computers, printers, and cell phones, are exported in a manner that does not harm health or the environment.

Two, we want them to work with the Customs and Border Protection and other agencies to improve identification and tracking of exported used electronics. As Congressman Manzullo already mentioned, they have a tracking system; they simply don't have the codes to determine what is electronic and what is not.

And three, we want them to submit a legislative package, which they have prepared in the past but never sent up, to the Congress, for ratifying the Basel Convention. We believe that implementing these recommendations would help make U.S. export control stronger and more consistent with those of the industrialized countries of the world.

We believe that if EPA is unable or unwilling to fix this internationally embarrassing problem, then the Congress may need to step in. As also mentioned, domestic legislation is a big part of this. We don't know what to do with our computers now. There is no Federal regulation, so the states have taken it upon themselves to do their own landfill bans and other legislations for electronic waste. So that is a big component of this overall problem.

Thank you, Mr. Chairman. I will be happy to take any questions you may have.

[The prepared statement of Mr. Stephenson follows:]

United States Government Accountability Office

**GAO**

Testimony  
Before the Subcommittee on Asia, the  
Pacific, and the Global Environment,  
Committee on Foreign Affairs, House of  
Representatives

For Release on Delivery  
Expected at 2:00 p.m. EDT  
Wednesday, September 17, 2008

**ELECTRONIC WASTE**

**Harmful U.S. Exports Flow  
Virtually Unrestricted  
Because of Minimal EPA  
Enforcement and Narrow  
Regulation**

Statement of John B. Stephenson, Director  
Natural Resources and Environment



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September 17, 2008

## ELECTRONIC WASTE

### Harmful U.S. Exports Flow Virtually Unrestricted Because of Minimal EPA Enforcement and Narrow Regulation



Highlights of GAO-08-1166, a testimony before the Subcommittee on Asia, the Pacific, and the Global Environment, Committee on Foreign Affairs, House of Representatives

#### Why GAO Did This Study

Increasingly, U.S. consumers are recycling their old electronics to prevent the environmental harm that can come from disposal. Concerns have grown, however, that some U.S. companies are exporting these items to developing countries, where unsafe recycling practices can damage health and the environment. Items with cathode-ray tubes (CRTs) are particularly harmful because they contain lead, a known toxin. As a result, in January 2007, EPA began regulating the export of CRTs under a rule requiring companies to notify EPA before exporting CRTs.

GAO's August 2008 report examined (1) the fate of exported used electronics, (2) the effectiveness of regulatory controls over the export of these devices, and (3) options to strengthen federal regulation of exported used electronics. Among other things, GAO reviewed waste management surveys in developing countries, monitored e-commerce Web sites, and posed as foreign Internet buyers of broken CRTs.

#### What GAO Recommends

In its August 2008 report, GAO recommended that EPA (1) develop a systematic plan to implement and enforce the CRT rule and (2) develop options to broaden its authority to address the export of other potentially harmful used electronic items. EPA expressed significant reservations with GAO's findings and recommendations. GAO maintains, however, that they are fair and well supported.

To view the full product, including the scope and methodology, click on GAO-08-1166. For more information, contact John Stephenson at (202) 512-3841 or stephensonj@gao.gov.

#### What GAO Found

Some exported used electronics are handled responsibly in countries with effective regulatory controls and by companies with advanced technologies, but a substantial amount ends up in countries where disposal practices can harm workers and the environment. Recent surveys taken on behalf of the United Nations found that used electronics exported from the United States to many Asian countries are dismantled using methods like open-air incineration and acid baths to extract metals such as copper and gold. Over 3 months, GAO observed thousands of requests for these items on e-commerce Web sites—mostly from Asian countries such as China and India but also from Africa.

U.S. hazardous waste regulations have not deterred exports of potentially hazardous used electronics, primarily for the following reasons:

- *Existing EPA regulations focus only on CRTs.* Other exported used electronics flow virtually unrestricted, even to countries where they can be mismanaged, in large part because relevant U.S. hazardous waste regulations assess only how products will react in unlined U.S. landfills.
- *Companies easily circumvent EPA's CRT rule.* Posing as foreign buyers of broken CRTs in Hong Kong, India, Pakistan, and other countries, GAO found 43 U.S. companies that expressed willingness to export such CRTs. Some of the companies, including ones that publicly tout their exemplary environmental practices, were willing to export CRTs in apparent violation of the CRT rule. GAO provided EPA with the names of these companies at EPA's request.
- *EPA's enforcement is lacking.* Since the CRT rule took effect in January 2007, Hong Kong officials intercepted and returned to U.S. ports 26 containers of illegally exported CRTs. EPA has since penalized one violator, and then only long after the shipment was identified by GAO. EPA officials acknowledged CRT rule compliance problems but said that given the rule's relative newness, they were focusing on educating the regulated community. This explanation, however, is undermined by GAO's observation of the apparent willingness by many companies to violate the rule, even by those aware of it. Finally, EPA has done little to ascertain the extent of noncompliance, and EPA officials told us that they have neither plans nor a timetable to develop an enforcement program.

Beyond enforcing the CRT rule, EPA can take steps to ensure that the larger universe of potentially harmful electronic devices—such as computers, printers, and cell phones—are exported in a manner that does not harm health or the environment. Among the options GAO has raised are (1) expanding hazardous waste regulations to cover other exported used electronics; (2) submitting a legislative package to Congress for ratifying the Basel Convention, an international regime governing the import and export of hazardous wastes; and (3) working with Customs and Border Protection and other agencies to improve identification and tracking of exported used electronics. Options like these could help make U.S. export controls more consistent with those of other industrialized countries.

Mr. Chairman and Members of the Subcommittee:

I am pleased to be here today to discuss our recent findings regarding exports of electronic waste from the United States and the effectiveness of regulatory controls over export practices. According to the Environmental Protection Agency (EPA), Americans removed more than 300 million electronic devices from their households in 2006. Toxic substances, such as lead, in electronics are well known to harm people's health, and when electronics are disposed of improperly, these substances can leach from discarded devices into the surrounding environment. As a result, when U.S. consumers purchase new devices, such as computers, monitors, televisions, and cell phones, they are increasingly paying electronics recyclers to recycle their old ones.

Since one person's trash is often another person's treasure, a thriving international trade has emerged in used electronics, largely from industrialized to developing countries. As the export of these items has continued, however, concerns have mounted that not all recycling is conducted responsibly, particularly in developing countries, and that some U.S. recyclers and exporters may be at fault. Environmental groups have alleged that imported used electronics that cannot be repaired are often recycled in developing countries by crude and inefficient means and with virtually no human health or environmental protection. Products with cathode-ray tubes (CRTs), such as televisions and computer monitors, can be especially harmful to humans and the environment. Accordingly, in the United States, used CRTs are the only electronic devices regulated as hazardous waste and whose export is specifically controlled by EPA. Internationally, the Basel Convention, an outgrowth of the United Nations Environment Programme, in 1989 established an international legal regime governing the export and import of hazardous wastes for disposal.

Our testimony, which is based on our recent report on electronic waste exports,<sup>1</sup> addresses (1) the fate of exported used electronics, (2) the effectiveness of regulatory controls over the export of used electronics from the United States, and (3) opportunities for strengthening the federal role in regulating used electronics exports.

#### Summary

While some exported used electronics can be handled responsibly in countries with effective regulatory regimes and by companies with advanced technologies, a substantial amount ends up in countries such as China and India, where they are often handled and disposed of unsafely. Recent surveys conducted on behalf of the United Nations Environment Programme found that used electronics imported from the United States are dismantled in many developing countries under unsafe conditions. Other investigations have corroborated disassembly practices in some Asian countries involving the open-air burning of wire to recover copper and open acid baths for separating metals, exposing people to lead and other hazardous materials. In particular,

<sup>1</sup>GAO, *Electronic Waste: EPA Needs to Better Control Harmful U.S. Exports through Stronger Enforcement and More Comprehensive Regulation*, GAO-08-1044 (Washington, D.C.: Aug. 28, 2008).

as China's growing economy has driven its demand for raw materials, the country appears to be relying on the inexpensive labor and lax environmental controls reported in other countries in the region (such as Indonesia and Cambodia) to help meet its demand. Whereas used electronics exported to Asian countries are often unsafely recycled, such items are exported to West African countries primarily for reuse. Many units are in fact exported broken, however, and some U.S. companies appear to mix broken units with shipments of working units. The nonworking units are often dumped and left for scavengers.

Current U.S. regulatory controls do little to stem the export of potentially hazardous used electronics, primarily for the following reasons:

- *Narrow scope of regulatory control.* U.S. hazardous waste regulations do not consider most used electronic products such as computers, printers, and cell phones as hazardous, even though they can be mismanaged overseas and can cause serious health and environmental problems. Under U.S. law, only exports of CRTs are regulated as hazardous waste.
- *Regulatory controls easily circumvented.* Despite adoption of a CRT rule in 2006, the export of CRTs from the United States in apparent violation of the rule seems widespread. Posing as fictitious buyers from Hong Kong, India, Pakistan, Singapore, and Vietnam, among other countries, we found 43 electronics recyclers in the United States who were willing to export to us broken, untested, or nonworking CRTs under conditions that would appear to violate the CRT rule.<sup>2</sup> EPA records show that none of the recyclers willing to sell to us had filed proper notifications of their intent to export CRTs for recycling as is required by the CRT rule for actual shipments.<sup>3</sup> Some of these seemingly noncompliant companies actively cultivate an environmentally responsible public image; at least 3 of them held Earth Day 2008 electronics recycling events.
- *EPA has done little to enforce the CRT rule.* EPA has taken few steps to enforce the CRT rule. Since the rule took effect in January 2007, for example, Hong Kong has intercepted and returned to the United States 26 shipping containers of used CRT monitors because, Hong Kong officials said, these exports violated Hong Kong's hazardous waste import laws. Under the CRT rule, these shipments are considered illegal hazardous waste exports because the U.S. exporter did not notify EPA. Such exporters could be subject to administrative or criminal penalties. Nonetheless, EPA did not issue its first administrative penalty complaint against a company for potentially illegal CRT shipments until July 2008, and this penalty came as a result of a problem we identified. EPA acknowledges the existence of compliance problems

<sup>2</sup>Three others indicated that they do not export broken CRTs, and 7 others asked for more information about our fictitious identities, such as phone numbers, a Web site, or what we intended to do with the broken CRTs.

<sup>3</sup>As of June 2008, 25 companies have submitted 47 notices for export of CRTs for recycling to EPA. These companies informed EPA that they intended to responsibly recycle CRTs at facilities in Brazil, Canada, Korea, Malaysia, and Mexico.

with its CRT rule, but the agency has done little to ascertain the extent of noncompliance. Moreover, Enforcement and Compliance Assurance officials told us that they have no plans and no timetable for developing the basic components of an enforcement strategy, such as enforcement targets, monitoring, follow-up of suspected violations, and prosecution.

Beyond enforcing its own CRT rule, EPA can also take steps to ensure that the larger universe of potentially harmful electronics—possibly including computers, flat-panel monitors, and cell phones—are also exported in a manner that does not contribute to human health and environmental harm overseas. Among the available options—which could make U.S. export controls more consistent with international norms—is to propose amending RCRA regulations to include exports of a broader range of used electronics posing health or environmental risks when disassembled or reclaimed. Additionally, EPA could enhance U.S. control over the export of used electronics by submitting a legislative package to Congress to complete ratification of the Basel Convention and by working with Customs and Border Protection and the International Trade Commission to improve identification and tracking of exported used electronics.

#### **Background**

In issuing its final CRT rule in July 2006, EPA obtained information that prompted the agency to assert that “[CRTs] are sometimes managed so carelessly [overseas] that they pose possible human health and environmental risks from such practices as open burning, land disposal, and dumping into rivers.” As a result, for nearly 2 years, CRT exporters have been required to notify the appropriate EPA regional office when the items are destined for reuse.

When CRTs are exported for recycling, the exporter must first notify EPA’s Office of Enforcement and Compliance Assurance in Washington, D.C., which then obtains consent from the importing country. The written acknowledgment of the importing country’s consent, which EPA then sends to the exporter, must accompany the shipment. If these conditions are not met, the CRTs are considered hazardous waste subject to full RCRA regulation because they typically fail EPA’s tests for toxicity.<sup>4</sup> Implementation of the CRT rule is a shared responsibility between EPA’s Office of Solid Waste and Emergency Response and the Office of Enforcement and Compliance Assurance. Used electronic devices other than CRTs do not generally qualify as hazardous waste under

<sup>4</sup>U.S. exporters of hazardous wastes must comply with all applicable domestic laws and regulations, which include regulations under RCRA. In general, a U.S. exporter must prepare and submit certain documents. Before a shipment proceeds, an exporter must submit to EPA headquarters a notification of intent to export, describing the type and amount of waste, its itinerary, the number of shipments expected, and the period during which shipments will occur. EPA forwards this notification to the government(s) of all concerned countries. The government of the importing country must consent to the shipment before it may proceed. While a shipment is in transit, an exporter must attach a hazardous waste manifest to the shipment, along with the acknowledgment of consent from the importing and transit countries. Finally, an exporter must file an annual report with EPA headquarters summarizing the exporter’s shipments for the previous calendar year.

the Resource Conservation and Recovery Act of 1976 as amended (RCRA), which is the statute governing hazardous waste handling and disposal.

The Basel Convention has been ratified by 170 countries, including virtually all industrialized countries except the United States. It stipulates that a country may ship hazardous waste only after receiving prior written consent from the receiving country. Additionally, exports of hazardous waste can occur only under the following circumstances: (1) if the exporting country does not have sufficient disposal capacity and (2) if the exporting country does not have disposal sites that can dispose of the waste in an environmentally sound manner.<sup>5</sup>

**Used Electronics Are Exported Worldwide and Often Handled and Disposed of Unsafely**

Some exported used electronics can be handled responsibly in countries with effective regulatory regimes and by companies with advanced technologies. A substantial quantity, however, ends up in countries where the items are handled and disposed of in a manner that threatens human health and the environment.

Some Exported Used Electronics Appear to Be Handled Responsibly

Certain developed countries have regulatory regimes that require safe handling and disposal of used electronics. Member states of the European Union, for example, must comply with the Waste Electrical and Electronic Equipment Directive of 2002, which established comprehensive take-back and recycling requirements involving retailers, manufacturers, and importers of electrical and electronic products. The directive requires member countries to ensure that producers and importers finance the separate collection, treatment, recovery, and environmentally sound disposal of "waste electronics," either on their own or through collective systems financed by themselves and other members of the industry. European Union countries are also parties to the Basel Convention. The aim of the convention is to protect human health and the environment from the adverse effects caused by the export of hazardous wastes, especially to developing countries, where the risk of unsafe hazardous waste management is often higher. As part of European Union countries' implementation of the Basel Convention, hazardous wastes intended for disposal generally cannot be shipped to developing countries.

Some companies located in developing countries also appear to safely recycle and dispose of used electronics using advanced technologies. Samsung Corning, for example, operates a plant in Malaysia that recycles CRT glass and manufactures new CRT televisions, which can contain as much as 50 percent recycled glass content. Samsung Corning's contractor in the United States has coordinated with approximately 40 U.S.

<sup>5</sup>The Basel Convention also prohibits movement of waste between parties and non-parties, except when these movements occur under an equivalent bilateral or multilateral agreement. The bilateral or multilateral agreements must provide an equally sound management structure for transboundary movements of waste.

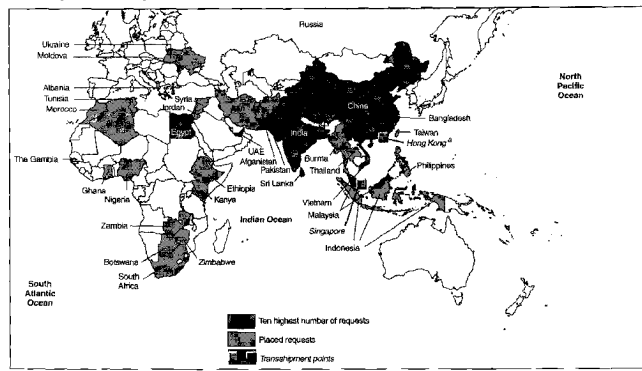


recyclers for the export of CRT glass. According to the contractor, about 250 shipping containers, totaling about 4,000 tons of CRT glass, leave the United States for the Malaysian facility each month. Malaysia's regulatory regime helps ensure safe recycling and disposal practices for CRTs; these products may be exported to Malaysia only if they meet certain safety conditions, according to Malaysian environmental protection officials.

Significant Demand Exists for Exported Used Electronics, and Many Countries Receiving These Items Lack the Capacity to Safely Handle and Dispose of Them

Significant demand exists for used electronics from the United States, particularly in developing countries. In a search of one Internet e-commerce site, we observed brokers from around the world place 2,234 requests to purchase LCD monitors. On the same site, we found 430 requests for central processing units and 665 for used computers. In an extensive search of two Internet e-commerce sites over a 3-month period, we observed brokers in developing countries make 230 requests for CRTs—seeking about 7.5 million units. Brokers in developing countries represented over 60 percent of all requests we observed. Over 75 percent of the requests made by brokers were for \$10 or less per unit, and almost half offered \$5 or less. Low prices (under \$10 per unit) indicate a high likelihood that these items will ultimately be handled and disposed of unsafely. About 70 percent of the requests that came from developing countries were from Asia, with China and India posting by far the largest number; the remaining requests came largely from Africa (see fig. 1).

**Figure 1: Developing Countries Requesting CRTs on Two Internet E-commerce Web Sites, February 2008 to May 2008**



Note: The information presented in figure 1 assumes that buyers do not post fictitious country names. It also assumes no double-counting of requests. Hong Kong and Singapore are the two transshipment points. Hong Kong is a special administrative region of China. Requests were also placed in Aruba, Peru, and Venezuela.

Unlike the United States, many foreign countries, particularly those in the developing world, do not have the landfill capacity and regulatory controls to ensure safe handling and disposal of used electronics. According to surveys made on behalf of the United Nations Environment Programme, large quantities of used electronic items are imported by developing countries, particularly in Southeast Asia, where they are improperly handled and, in some cases, informally recycled in “backyard” operations involving open-air burning of copper wire and acid baths to recover valuable metals.

**China and Hong Kong.** China’s fast-growing economy drives the nation’s demand for raw materials, and one way that this demand is met is by importing used electronic products, according to a 2005 report by the Basel Convention Regional Centre in China.<sup>6</sup> Chinese and Japanese researchers told us that most of these devices are likely to be

<sup>6</sup>Asia-Pacific Regional Centre for Hazardous Waste Management Training and Technology Transfer. *Report on the Survey of the Import and the Environmentally Sound Management of Electronic Wastes in the Asia-Pacific Region*, December 2005. The Basel Convention has a network of 14 regional centers that assist party countries in controlling the transboundary movement of hazardous wastes.

shipped through Hong Kong. Once in China, most disassembly happens “by hand,” according to the 2005 report, where workers use primitive means in workshops of seven or eight employees. In one city, the report found that more than 300 groups were active in electronic waste recovery efforts. Open burning and acid baths to recover metals are commonplace, and the residual toxic waste from such operations is simply discarded, allowing pollutants to seep into the ground and water.<sup>7</sup>

**Indonesia.** In March 2007, Indonesian officials reported that used electronics are imported from the United States for re-export to China, Hong Kong, and Taiwan, and the lack of effective environmental controls make unsafe recycling commonplace.<sup>8</sup> According to these officials, electronics recycling activities occur in east Java in an industrial estate and on Batam Island (near Singapore) in a “special bounded zone” exempt from government regulation. Recyclers at these facilities dismantle, crush, and melt used electronics. Most of the waste recycled on Batam Island is hazardous and would otherwise be more expensive to handle in “legal” facilities outside the special bounded zone, according to Indonesian officials.

**Cambodia.** According to Cambodian environmental officials, the primary electronic devices for sale consist mostly of secondhand material imported from the United States, the European Union, China, and other Southeast Asian countries. Unrepairable electronic products are often disposed of in municipal waste sites that are not designed to contain hazardous materials. Some scavengers in Cambodia—including children—often work directly for scrap yards, collecting material for as little as \$1 a day. At the scrap yards, material is sorted, and metals are exported abroad for recycling. Items that lack value are often dumped and sometimes burned (see fig. 2).

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<sup>7</sup>Recent studies have highlighted the dangers of working and living near these facilities, particularly for children. For example, a study conducted by a Chinese medical school and published in 2007 in the journal *Environmental Health Perspectives* found that children in Guiyu had lead levels in their blood that were more than 50 percent higher than the limit for lead exposure set by the Centers for Disease Control and Prevention in the United States. Xia Huo et al., “Elevated Blood Lead Levels of Children in Guiyu, an Electronic Waste Recycling Town in China,” *Environmental Health Perspectives*, vol. 115, no. July 7, 2007.

<sup>8</sup>Regional Workshop on the Environmentally Sound Management of E-Wastes, Siem Reap, Cambodia, March 13-15, 2007.

Figure 2: Open Dump Site for Electronic Waste in Cambodia



Source: Basel Convention Regional Centre in China. Report on the Survey of the Import and the Environmentally Sound Management of Electronic Wastes in the Asia-Pacific Region, December 2005.

**India.** In 2004, the environmental group Toxics Link documented containers of computer waste labeled as mixed electronics scrap imported from the United States through the port of Chennai. According to Toxics Link, more than 10,000 people—again, including children—work in the “informal” recycling industry in Delhi alone, breaking equipment; using acid baths; and openly burning wires and plastic casings to reclaim gold, copper, and other commodities.

**Western Africa.** In contrast to the situation in many Asian countries, used electronics exported to West African countries are intended for reuse. Businesses importing used computers, for example, can sell functional units for as little as \$100, well below the cost of a new computer, bringing technology within the reach of more people, according to one African computer importer. Some U.S. recyclers, however, mix broken units with working units in shipments to Africa, and the nonworking units are often dumped and left for scavengers. Accepting “junk” equipment is often part of the “arrangement” U.S. recyclers make with African importers, according to a used computer importer in Senegal. Negotiating the amount of working versus broken equipment is routinely part of the agreement, and this importer told us that even if he receives a shipment of up to 40

percent “junk,” he can still make a profit. Often, the “junk” computers are dumped in the countryside and burned, he explained.

#### **U.S. Exports of Potentially Harmful Used Electronics Flow Virtually Unrestricted**

Current EPA regulations for hazardous waste have not prevented the export of potentially hazardous used electronics. Most used electronics can be legally exported from the United States with no restrictions; EPA controls only the export of used CRTs under its CRT rule, yet we observed widespread willingness to engage in activities that would appear to violate the CRT rule. Further, EPA has done little to determine the extent of noncompliance with the rule and even less to deter such noncompliance.

#### Existing Regulation Focuses Only on CRTs

Current EPA hazardous waste regulations control only the export of a narrow segment of used electronics (CRTs), therefore allowing unrestricted export of nearly all others.<sup>8</sup> Besides CRTs, most other types of exported used electronics can be mismanaged and cause serious health and environmental problems overseas. These products, however, are generally not considered “hazardous” under EPA’s regulatory definition. Consequently, exporters can ship most types of used electronic products, such as computers, printers, and cell phones, without restriction. Under RCRA regulations, waste products are designated as “hazardous” according to the extent to which they will leach toxins if disposed of in unlined landfills. The tests used to make such a designation do not account for the potential for toxic exposure when items are disassembled or handled differently, such as by burning, as they often are outside the United States, particularly in developing countries.

#### Companies Exporting Nonworking CRTs Can Easily Circumvent EPA’s Regulatory Controls

The limited regulation that exists over used electronics exports from the United States—namely, the CRT rule—is largely ineffectual because EPA’s implementation of it has frequently failed to deter companies from illegally exporting these items from the United States. When we posed as foreign buyers looking for nonworking CRT monitors, 43 U.S. companies that responded to our fictitious requests were willing to export nonworking CRTs to us, in apparent violation of the CRT rule.<sup>9</sup> Many of these companies also actively promote an environmentally responsible public image, with 3 holding Earth Day 2008 electronics-recycling events. For example:

<sup>8</sup>As of June 2008, 25 companies have submitted to EPA 47 notices for export of CRTs for recycling. These companies informed EPA that they intended to responsibly recycle CRTs at facilities in Brazil, Canada, Korea, Malaysia, and Mexico.

<sup>9</sup>Six others requested more information about our purchase offer; 2 indicated they would sell us only working CRTs; and 3 others said they would not do business with us because they did not export nonworking CRTs.

- A sales representative for a large electronics recycler in New Jersey said that he was not aware of the CRT rule and was not the right person to speak to about this issue. This same individual, however, told our fictitious buyer from Hong Kong not to worry about U.S. laws' holding up export of untested CRT monitors. He explained that "it's the laws at [the port of Hong Kong] that you have to find out about."
- A recycler from Missouri states on its Web site that it is an organization "dedicated to keeping old discarded computer equipment from entering America's landfills." This company, however, offered to sell a container-load of CRT monitors to our fictitious broker in Hong Kong, offering us a 10 percent discount because we were new buyers.
- A representative of an electronics-recycling company in Colorado told us that the company does not export CRTs, instead asserting that all CRTs are recycled in-house and that the CRT rule therefore does not apply. This same person offered to sell 1,500 CRT monitors and 1,200 CRT televisions— which were ready for immediate shipment to our fictitious broker in Hong Kong.
- A representative of an electronics-recycling company in Washington State told us that all of its CRT monitors are sent to its shredding facility in Oregon. A sales associate at the company, however, offered to sell 4 containers of CRT monitors (approximately 3,200 units) in April 2008 and another 20 containers (approximately 16,000 units) in June 2008 to our fictitious broker in Hong Kong.
- A Maryland electronics recycler charges \$10 to \$30 for CRT monitors to cover its "responsible, domestic recycling costs," stating that its mission is to be globally responsible. Yet when we posed as a buyer in Singapore, the Chief Operating Officer asked what price we were paying for untested, as-is CRT monitors, suggesting that he was interested in selling the items to us.

Of note, at least two electronics recyclers that responded to our fictitious foreign brokers have purchased used state-government surplus CRT monitors from two auction Web sites, indicating that government CRTs may be among those offered for sale to overseas brokers.

#### EPA Has Done Little to Enforce the CRT Rule

Our investigation revealed little inclination on EPA's part to enforce the CRT rule. Since the rule took effect in January 2007, for example, Hong Kong's Environmental Protection Department and its Customs Department have worked together to intercept and return 26 containers of "waste" CRT monitors to the United States. In each instance, the U.S. exporters neither notified EPA nor received consent from Hong Kong. An official from Hong Kong's Environmental Protection Department stated that his agency would not grant consent for importing such items because under Hong Kong regulations it is illegal to import CRTs from the United States. From January to July 2008, we provided EPA's

Office of Enforcement and Compliance Assurance with current information we received from Hong Kong's Environmental Protection Department, which included information on six shipments (10 40-foot containers) of waste CRTs intercepted and returned to the United States during this period, one of which was returned from Hong Kong multiple times.

#### Sidebar: A Tale of Three Containers

Three containers were shipped across the Pacific Ocean four times before EPA initiated enforcement action. Hong Kong's Environmental Protection Department notified GAO of three 40-foot containers of CRT monitors that had been inspected in Hong Kong and returned to the Port of Los Angeles because they contained "waste" CRT monitors, which are illegal for import into Hong Kong. EPA records indicate that the U.S. exporter had not notified EPA. GAO notified EPA's Office of Enforcement and Compliance Assurance that the containers were still at the Port of Los Angeles. After sitting at the port for 11 more days, the three 40-foot containers were loaded onto another cargo ship and re-exported to Hong Kong. EPA's Office of Enforcement and Compliance Assurance official explained to GAO that the original shipper had placed the CRT monitors in the containers by mistake and that the company had voluntarily removed the CRT monitors before re-exporting the containers to Hong Kong. About 3 weeks later, Hong Kong's Environmental Protection Department intercepted the containers a second time and verified that the three containers still contained the same "waste" CRT monitors. They were returned again to the Port of Los Angeles, at which time EPA detained the containers and arranged for their inspection. The result of EPA's investigation is pending. According to an EPA inspector, the shipper had simply changed the name of his business to a fictitious company and re-exported the containers after they had originally been returned from Hong Kong.

Source: GAO.

In one instance, we asked U.S. Customs and Border Protection to detain a container that was intercepted in Hong Kong and returned to the United States in February 2008. We viewed the contents of this container at the Port of Long Beach, California. We observed hundreds of CRT computer monitors stacked haphazardly, some with cracked plastic cases and broken glass tubes. We received photographic evidence showing that this illegal shipment of CRT monitors originated from the Denver metropolitan area. According to a third-party source, these monitors came from an electronics recycler in Colorado, which claims to hold 20 to 30 community recycling events each year for homeowners' associations, city governments, and property managers. The company's Web site also states that "many domestic recycling companies ship e-waste to China, where it ends up harming the environment and the population. With [this company], your e-waste is recycled properly, right here in the United States, not simply dumped on somebody else."

In at least one case, EPA chose not to physically inspect and detain a container that was intercepted and returned to the United States by Hong Kong, even though EPA acknowledged that the container likely contained broken CRTs. In this case, referring to a container returning to the Port of Tacoma in April 2008, EPA asked a Customs and Border Patrol officer not to detain the container on its behalf. Although EPA acknowledged that the container included used CRTs that may be in broken or unstable condition, the agency concluded that an inspection of the container was not necessary to address the apparent noncompliance. Upon consultation with EPA, Customs and Border Protection released the container, which was re-exported to Hong Kong. We do not know if Hong Kong's Environmental Protection Department again intercepted the container.

EPA's deputy director for Civil Enforcement stated that EPA intended to initiate contact with the responsible party for this shipment. The outcome of EPA's investigation was pending at the time of our report in August.

The Director of EPA's Hazardous Waste Identification Division acknowledged in an e-mail to EPA's RCRA regional directors, "[I] expect there has been considerable noncompliance with the [CRT] rule's notification provision." Nonetheless, the Deputy Director of the agency's Office of Civil Enforcement told us that EPA's initial efforts to address noncompliance have been aimed at education and outreach. He explained that given the rule's relative newness, the regulated community must first be made aware of the rule's requirements.

We believe that EPA's contention, that a focus on enforcement should await the effects of an education program, has not been substantiated by the facts. This view implies that violations to date have resulted largely from unawareness of the rule and not from willful disregard for it. This implication, however, has clearly not been borne out. With very little effort, we were able to observe substantial willingness to engage in activities that would appear to violate the CRT rule—including instances where the exporters were aware of the CRT rule—by simply monitoring e-commerce Web sites and conducting limited follow-up. EPA, on the other hand, has done little to ascertain the extent of noncompliance with the CRT rule. In the absence of such an effort, it has set no enforcement targets, conducted no monitoring, and taken only one action against a violator of the rule. Moreover, the agency has not taken the initial steps necessary to develop a program for identifying and prosecuting exporters who do not notify the agency when shipping CRTs overseas for recycling or reuse, nor does it have plans to develop such a program.

**EPA Has Several Options That Would Strengthen the Federal Role in Reducing Harmful Exports of Used Electronics**

Even if there were total compliance with the CRT rule, the effect would reach only a small percentage of all potentially harmful used electronics exported from the United States. Enforcement and Compliance Assurance guidance states that if an environmental problem would not be solved if 100 percent compliance were achieved within the regulated community, then modification of regulations or other initiatives may be necessary.<sup>11</sup> As we have shown, such a gap exists with respect to used electronics that do not meet the current U.S. regulatory definition of hazardous waste. More comprehensive regulation of used electronics exports could narrow this gap. Options in this regard include, but are not limited to, (1) amending RCRA regulations to include exports of used electronics posing health or environmental risks when disassembled or reclaimed, to expand the scope of the CRT rule, and/or to revise the regulatory definition of hazardous waste, (2) submitting a legislative package to Congress for ratifying the Basel Convention, and (3) working with Customs and Border Protection and with the

<sup>11</sup>EPA Office of Enforcement and Compliance Assurance, *Guide for Addressing Environmental Problems: Using a Strategic Approach* (Washington, D.C., March 2007).



International Trade Commission to improve identification and tracking of exported used electronics.

- **Amend RCRA Regulations.** EPA could amend RCRA regulations to cover exports of used electronics where risks exist to human health or the environment when reclaimed for reuse or recycling, an action that—if implemented—could bring U.S. export controls more in line with those of other industrialized countries. For example, EPA could revise the definition of “hazardous” in its RCRA regulations to encompass certain used products that can pose risks upon disassembly or reclamation, including desktop computers, laptop computers, printers, and cell phones. Currently, many electronics contain toxic constituents in small quantities yet do not come within the regulatory definition of “hazardous” because these substances do not leach from the electronic products at unsafe amounts under tests simulating disposal in a landfill. As long as the regulatory definition of “hazardous” does not include such used products, they will not be subject to any of RCRA’s export provisions, such as notice and consent, and the burden for identifying and controlling the flow of such products will remain solely with the receiving country.
- **U.S. Ratification of the Basel Convention.** U.S. regulations contain no provisions for addressing situations when a waste is not classified as hazardous under U.S. law but is so classified—with its trade restricted or prohibited—under an importing country’s law. The effect is that the importing country bears the full burden of identifying and intercepting such materials, without the benefit of U.S. cooperation as the export country. By contrast, the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal—effectively the international standard for hazardous wastes shipped for disposal or recycling—provides for cooperation between exporting and importing countries. For example, the convention requires that exporting countries stop shipments of waste if they have reason to believe that the waste will not be handled in an environmentally sound manner, as well prohibit exports to countries that have prohibited import of that type of waste. The Basel Convention also established a prior notice-and-consent system for such wastes. While the U.S. has an existing notice-and-consent system, the Basel Convention and the U.S. system have significant distinctions.

For the United States to become a party to the Basel Convention, Congress would need to enact implementing legislation giving a U.S. agency, such as EPA, the authority to enforce the Convention’s provisions domestically.<sup>12</sup> Passage of such legislation would complete the prerequisites to ratification and, in effect, would make the United States party to the Basel Convention. Although the EPA had developed a legislative package that, if signed into law, would give EPA the statutory authorities it needs to fulfill the requirements of the Basel Convention, the legislative package has

<sup>12</sup>The United States Ambassador to the United Nations signed the Basel Convention on March 21, 1990. The United States Senate gave consent to ratification in 1992 (138 Congressional Record 12291-92). The State Department has advised the Senate that it will not ratify the convention prior to the enactment of implementing legislation. (Ratification occurs when a country submits its documents of ratification to the Secretariat.) Thus, the next step in ratification would be Congressional passage of implementing legislation, followed by presentation to the President.

to date not been submitted to Congress. According to EPA Solid Waste officials, the agency has not submitted the legislative package to Congress because, at present, it has other priorities for Congressional attention..

- **Improve Tracking of Exported Used Electronics.** The U.S. government has adopted the Harmonized Tariff Schedule as the basic system for tracking exports for duty, quota, and statistical purposes. At present, the schedule's codes do not enable identification of used electronics, nor do they distinguish between whether such electronics are being exported for recycling or reuse. Through identification of potentially illegal shipments of CRTs, we observed that shippers described used electronic exports as "mixed plastics" and "scrap metals." Customs regulations require that U.S. exporters use the 7-digit international standard code that most closely describes the contents of a container, but no such code exists for used electronics. U.S. exporters can use 8- or 10-digit codes, which helps Customs and Border Patrol officials track more specific product types. Adding more detailed codes to the schedule could assist other countries in controlling used electronics exported from the United States. For example, a country such as China, which reports it has tried to ban all imports of used electronics, could use the codes as listed on the shipper's export declaration accompanying the shipment to select shipments for inspection and potential rejection at the border. Further, such codes could facilitate basic statistical tracking of such exports, including by type, price, and receiving country, among others.

Because of EPA's enforcement and regulatory shortcomings, we recommended in our August 2008 report that EPA (1) develop a systematic plan to enforce the CRT rule and (2) develop options to broaden its regulatory authority to address the export of other potentially harmful used electronics. In its comments, EPA expressed significant reservations with GAO's findings and recommendations. We maintain, however, that the recommendations are fair and well supported, and that a commitment on EPA's part to address these issues is appropriate.

Mr. Chairman, this concludes my prepared statement. I would be happy to respond to any questions that you or Members of the Subcommittee may have.

#### **GAO Contact and Staff Acknowledgments**

For further information about this testimony, please contact me at (202) 512-3841. Steve Elstein, Assistant Director; Nathan Anderson; Elizabeth Beardsley; Mark Braza; Ellen Chu; Paul Kazemsky; and Arvin Wu also made key contributions to this statement.

Mr. FALCOMA. I thank the gentleman for his testimony. And the gentleman from Illinois, for his questions.

Mr. MANZULLO. Well, thank you very much. What I would like you to do, if you can, if the electronic waste were treated as hazardous material, there may be a reluctance to get rid of it at all. That is my big concern, at what point do you have so many regulations that it is difficult to deal with it. Or wouldn't it be wiser to create a whole new category of electronic waste, rather than try to lump them into the hazardous waste category?

Mr. STEPHENSON. Well, the regulations right now on hazardous waste are based on what would happen to that component in a landfill. That is why the CRT, which contains a large amount of lead and could break down in a landfill, is the only thing that is considered hazardous right now.

What we are suggesting is they look at a broader range of electronics as if they were going to be recycled, and set the controls based on that scenario, rather than a landfill scenario.

Mr. MANZULLO. Isn't the problem that we simply don't have adequate domestic infrastructure to deal with these, and we are just shipping them overseas to get rid of them?

Mr. STEPHENSON. Absolutely.

Mr. MANZULLO. Is that the basic problem?

Mr. STEPHENSON. Absolutely. Like was mentioned, nobody knows what to do with these. I have three used computers in my basement right now that I don't know what to do with. And now I am afraid to give them to a recycler for fear of what may happen to them.

So domestic legislation is a big part of this. We have to, we have to work on that. And we had a report 1½ years ago that recommended legislation in that regard.

Mr. MANZULLO. Could you fill us in on that? Give us an idea of what we could do domestically? Did you prepare the report last year? Was that yours?

Mr. STEPHENSON. I did. It was 1½ years ago. But basically, there are different approaches. One, the consumer will pay for the recycling costs ultimately; and the other is you put the onus on the manufacturer. And I think that those two scenarios were kind of at odds, and there was no consensus reached, and therefore no legislation ever moved forward on the domestic front.

But nevertheless, I think—

Mr. MANZULLO. Well, assume that you got over that user fee or export tax. I mean, you know, obviously that could be a problem. But let us just say that was not a problem. How would you handle the disposal and recycling of the domestic e-waste?

Mr. STEPHENSON. Well, there are plenty of credible recyclers in this country and abroad. And we would suggest that the controls ought to make it easier for you to recycle computers and other electronics. And that would, in large part, solve the problem.

Mr. MANZULLO. Would that increase the number of people involved in that type of business?

Mr. STEPHENSON. It could be a cottage industry.

Mr. MANZULLO. But you have the same problem we all do. For example, you have got three obsolete computers in the basement, because every, what, 2 or 3 years there is a new generation. I think

you probably tried to find somebody locally, and did not succeed, either.

So those centers that are available, do they charge people—

Mr. STEPHENSON. They do.

Mr. MANZULLO [continuing]. To recycle their units?

Mr. STEPHENSON. They do.

Mr. MANZULLO. Do you have any idea what the charge is?

Mr. STEPHENSON. I do not.

Mr. MANZULLO. Is it a couple bucks, or \$5? Anybody?

Mr. STEPHENSON. Can I bring one of my colleagues to the table?

Mr. MANZULLO. Of course, of course.

Mr. STEPHENSON. Nathan. This is Nathan Anderson, who actually led the export project, and also worked on the one 1½ years ago.

Mr. ANDERSON. Sir, I believe your question was touching on the fees associated with responsible domestic recycling.

The fees can range, on a per-pound basis. We often see fees anywhere from \$5 to \$20, \$25. For some of the older TVs from the 1950s that can weigh 150 pounds, some of those are going to cost you \$50 to \$75.

Mr. MANZULLO. People won't pay that. That is the problem.

Mr. ANDERSON. Well, in this particular marketplace, to responsibly recycle electronics, the recyclers have to charge a fee. Now, the flip side of that is there are some economic incentives for some less-scrupulous recyclers to export that problem. Perhaps they will take the equipment for a smaller fee or no fee at all, and then on the flip side, they will receive money from a foreign broker, perhaps anywhere from \$2 to \$5 to \$10 per unit.

So the economic incentives sometimes favor irresponsible recycling. And that actually makes the responsible folks that are out there—and there are a lot of them in the United States—they operate at a competitive disadvantage.

Mr. MANZULLO. What about the programs that Dell and HP presently have to encourage people to recycle? Do you think that they need to recycle through the manufacturer?

Mr. ANDERSON. Absolutely.

Mr. MANZULLO. Do you think that they need, these manufacturers need to be more aggressive in encouraging, or even letting the people know who have their products that these programs are available?

Mr. STEPHENSON. Yes, and making facilities available more widely, too. Right now it is very, other than an 800 number, it is very difficult to determine what to do responsibly with your electronics.

Mr. MANZULLO. But if the industry steps up and they are responsible, and obviously there would have to be some type of regulatory oversight, would that solve the problem?

Mr. STEPHENSON. We think it would go a long way toward solving the problem.

Mr. MANZULLO. Okay, thank you.

Mr. FALEOMAVAEGA. I will have some of my initial questions.

Mr. Stephenson, besides the fact that we have not even signed on to the Basel Convention, and according to the substance of your report, pointing the finger at EPA, are there problems with the Environmental Protection Agency for lack of resources or lack of ex-

perts or lack of manpower? Or just simply because of the philosophy underlying the leadership of EPA, they just don't care?

Mr. STEPHENSON. Well, I am sure they care.

Mr. FALEOMAVAEGA. But not enough.

Mr. STEPHENSON. As with all GAO reports, we give them an opportunity to comment on the report. And we published their comments in the back. And you will note that they disagreed with our findings. And frankly, we were sort of baffled by that, since enforcement of the CRT rule was non-existent until this committee asked us to look into this problem.

And so it is a low priority. I am sure they have 10 times more things to do than the resources they have to do it. But nevertheless, nothing was going on on enforcement of this rule until this committee requested this GAO study.

Mr. FALEOMAVAEGA. If you take last year's review, approximately what is the dollar value of all the electronic waste that we exported last year, approximately?

Mr. STEPHENSON. Well, a recycler right now, you pay a recycler to take your computer. And then he can sell it to an Asian buyer. So he is making money on both ends. So it is hard to say what the value of it is.

We were unable to determine the extent that is recycled versus the amount that was reused. Many computers, particularly to Africa, are reused.

However, when the exporters blend broken computers in with ones that work, there is nobody disassembling those in Africa; they simply throw them in an open pit. And it is not even a landfill. So they don't even have the facilities that Southeast Asia does to handle them responsibly.

Mr. FALEOMAVAEGA. Would it be accurate to say that looking at the European Union countries comprised of, what, over 400 million people, more than the population of our country, would it be accurate to say that the use of electronic equipment, et cetera, among the European countries are just as much as we are here in the United States?

Mr. STEPHENSON. I would think so. But they require notification of importing countries, and permission from the importing country.

Mr. FALEOMAVAEGA. Well, I am leading on to that next question I had in mind. Why is it that the European Union countries are able to really put their foot down and say that we are going to be very strict about the exportation of electronic waste? Why is it possible for them to do it, and we just seem to be very passive about this?

Mr. STEPHENSON. I can't speculate on that, but we certainly have the capability to do it if we have the desire to do it.

Mr. FALEOMAVAEGA. Do you think that maybe rather than—and I know my colleague, and I don't like regulations, either. But the problem with regulations, they can be easily changed.

Do you think that maybe ultimately the Congress should do this statutorily, to mandate that these things—I know my colleague mentioned about the definitions of waste and hazardous waste. I don't want to get into semantics.

The bottom line is that we are exporting these instruments that are dangerous, even to our own—

Mr. STEPHENSON. Right. Even a simple change to the export codes, as Congressman Manzullo mentioned, to clearly identify electronic items would help enforce the CRT rule. It would help understand what is being exported. You wouldn't have to change anything, or you wouldn't have to create any new regulations to do that.

Mr. FALEOMAVAEGA. You indicated in your testimony that the U.S., as far as you are concerned, is the weakest among all the nations of the world in doing something to put a little more stringent rule on how we should export electronic waste.

Mr. STEPHENSON. We are suggesting that we should look at a broader array of electronics than simply the CRT tubes. The CRTs are clearly a big, big problem. They are in old televisions, they are in all the big monitors that contain big copper yokes on the back, and they have several pounds of lead in the screen. So they are clearly hazardous.

So we are just suggesting that a broader range of electronics should be looked at, based on what is happening to them and how they are being recycled.

Mr. FALEOMAVAEGA. I note that what, we are 4 percent of the world's population, yet we consume about 30 percent of the world's energy resources. Would the same logic also be taken of the fact that we consume probably more of all these electronic stuff than any other country in the world?

Mr. STEPHENSON. I could only speculate, but we are a consuming nation.

Mr. FALEOMAVAEGA. Well, is there any way that we could find out exactly what we are talking about, as far as the economics of this exportation of electronic waste to poorer countries?

Mr. STEPHENSON. Well, again, we think the first step to getting a handle on this problem is domestically. You know, we need to create waste to make it easier for recyclers to do the right thing, and make that competitive with this sort of illicit industry that has grown up overseas.

Mr. FALEOMAVAEGA. What do you think of exporting them to Yucca Mountain in Nevada since we can't even put our nuclear waste there?

Mr. STEPHENSON. Actually, we are talking about a lot of volume. I am not sure how much room is—

Mr. FALEOMAVAEGA. Why not use it for our electronic waste?

Mr. STEPHENSON. It may be better than a landfill. This is, you know, volume-wise, this is a growing problem. Many of the states have passed the landfill bans, not only for the potential hazards of this material, but just the sheer volume of it. It is going to overwhelm the landfills. Japan has that problem right now; they are out of landfill space, essentially.

Mr. FALEOMAVAEGA. I will wait for the second round.

The gentlelady from California.

Ms. WATSON. I was concerned about why the United States did not ratify the convention, and what are we doing? Can you explain, Mr. Stephenson?

Mr. STEPHENSON. I cannot. All I know is that, are you familiar with the Persistent Organic Pollution Treaty, the POPS Treaty? That has been the focus of the State Department.

Ms. WATSON. What does that mean?

Mr. STEPHENSON. That is encouraging countries who ratify that particular convention to limit the use of persistent organic chemicals, or that bio-accumulate, that aren't easily dissolved into the environment.

Ms. WATSON. All that does is just encourage them?

Mr. STEPHENSON. I believe so. I am not an expert on that treaty. But, you know—

Ms. WATSON. Yes. Is there anyone here from the State Department who can clear that up for us? Sorry about that.

What export controls does the U.S. currently have in place on the shipment of e-waste abroad just trying to encourage—

Mr. STEPHENSON. No, we have a very specific rule on the books containing the cathode ray tube, the CRT tube, which is kind of old technology. And it requires an exporter to notify EPA. It requires EPA to notify the importing country, seek their permission, and put that permission slip, if you will, in the export container. So it is very specific.

The problem is, there is no enforcement whatsoever.

Ms. WATSON. Well, if it gets into our waters and there is waste coming out of these ships, we are still in trouble, aren't we?

Mr. STEPHENSON. Absolutely. The reason we try to control them in landfills is because of the dangerous lead content in the CRT tube.

Mr. FALEOMAVAEGA. Will the gentlelady yield?

Ms. WATSON. I certainly will.

Mr. FALEOMAVAEGA. Counsel has just advised me, and our ranking member, that apparently the Senate did give its advice and consent to the Basel Convention. But the implementation—

Mr. STEPHENSON. Right.

Mr. FALEOMAVAEGA [continuing]. Of the provisions of the convention domestically, in other words, having our own domestic laws to enforce the provisions of the Basel, has never taken place. And if I read this correctly, this was done in March 1989. That is almost 20 years ago.

Mr. STEPHENSON. Right. That is when it was—

Ms. WATSON. Mr. Chairman, I am reclaiming my time. I do think this might be a project for this subcommittee.

Mr. FALEOMAVAEGA. Absolutely.

Ms. WATSON. As a bill, put together for the 1,011—

Mr. FALEOMAVAEGA. I would say to the gentlelady, and with our ranking member, we will work closely to see about producing a draft and a proposed bill to that effect, to implement the Basel Convention provisions. I think that is an excellent idea.

Mr. STEPHENSON. We believe that EPA has prepared a legislative practice in the past.

Mr. FALEOMAVAEGA. But they never have submitted it to the Congress?

Mr. STEPHENSON. An idea, a good starting point, but they have never, they have never sent it up.

Mr. FALEOMAVAEGA. I am sorry.

Ms. WATSON. Since China and India seem to contribute to this problem greatly, have they appropriate recycling facilities in their own countries that you know about?

Mr. STEPHENSON. There are in Malaysia. I believe there are some in China, as well.

Mr. ANDERSON. There are recycling facilities in both China and India that are state of the art.

Mr. STEPHENSON. Right.

Ms. WATSON. I can't hear you.

Mr. STEPHENSON. Right. They don't have enough volume going through them right now to, to make them as economically viable as they might be. And therefore, the inappropriate recycling still abounds.

Ms. WATSON. Is there any country, developing country or one of the newer developed countries, that have built a recycling process that is effective, that you know of?

Mr. STEPHENSON. Malaysia is the most recent.

Ms. WATSON. Malaysia?

Mr. STEPHENSON. Yes.

Ms. WATSON. You know, we are processing an energy bill. And one of the biggest discussions we had was over nuclear energy. Well, the fear of many of us is, what do we do with the waste? And our member from Nevada said, "Not in Nevada, because that is where they want to ship everything."

It seems that France has been very successful in using nuclear power, and I understand that they are all down to 3 percent of their waste that is processed and taken care of. Do you know anything about the way they are processing their waste?

Mr. STEPHENSON. No, I do not. I am not a nuclear expert. We are talking about used consumer electronics primarily.

Ms. WATSON. I know, I know. But to me, it all is an environmental problem that we must deal with.

Mr. STEPHENSON. Yes, the nuclear issues are very separate from the kind of waste that we are talking about.

Mr. FALCOMA. Will the gentlelady yield?

Ms. WATSON. Certainly.

Mr. FALCOMA. My understanding is that France's nuclear wastes are being shipped to Japan, by ship.

Ms. WATSON. Oh, really? We need to follow up on that. Thank you, Mr. Chairman.

Mr. FALCOMA. Thank you. The gentleman from New Jersey for his questions.

Mr. SIRE. Thank you, Mr. Chairman. Mr. Stephenson, following up on Congressman Manzullo, a few years ago we had similar issues with tires. And there was an assessed amount of money for every time you go in to change the tires, you are assessed \$3 or something like that.

Are we talking the same thing, that maybe this is what we need with this industry?

Mr. STEPHENSON. We are. We are. Somebody has to pay for recycling. The manufacturers can do a better job of making their products more recyclable, using fewer parts, making them easier to disassemble, et cetera. But yes, somebody—the fee is going to have to be borne by either the manufacturer or the consumer at some point for recycling.

Mr. SIRE. Did that solve the tire problem, to your knowledge?

Mr. STEPHENSON. Did it solve the what?



Mr. SIRES. The tire problem.

Mr. STEPHENSON. Oh, I don't know. I am not a tire guy either.

Mr. SIRES. No, but I am just wondering if a simple solution like that might help.

What happens to the computers that people put out on the curb?

Mr. STEPHENSON. Depending upon what state you live in, you can't put it on the curb in one of the 17 states that has a landfill ban. You have to find a recycler.

The problem is there is a lot of unscrupulous recyclers out there, as evidenced by our investigation. So that is a good question. That is part of the, that is part of why we think it is so important to address this domestic legislation issue for electronic waste here in this country.

Mr. SIRES. The reason I ask is because I am a former mayor, and I know that in my tenure, we increased the collection of e-waste. But at that time New Jersey did not have the recycling legislation that they have now. So I am wondering, where do we put these?

Mr. STEPHENSON. Well, presumably you had a recycling company that accepted those reused or recycled computers. And what our investigation looked into is what ultimately happened to them once they were sold to, provided to those recyclers. And the story, the story is not good.

Mr. SIRES. Is there any coordination between the states and the EPA when they do their legislation to recycle e-waste? Do you work with the state and say look, this is what you need? Or each state is left to their own?

Mr. STEPHENSON. It varies on environmental regulations. But in this case, I think the states have stepped up, like in so many cases, because there is no Federal legislation. Many states have decided they are not going to wait for the Federal Government to act on electronic waste legislation, and therefore have passed their own laws.

There is coordination, of course. I mean, a lot of environmental laws are turned over to the states for enforcement and implementation. So I am not saying there is not coordination, but sometimes the state will move a little quicker on problems than the Federal Government does.

Mr. SIRES. Thank you very much.

Mr. FALCOMA. We will have a second round. The gentleman from Illinois, for questions.

Mr. MANZULLO. A couple of things. I am looking at a document from Dell called the Global Recycling Policy. One of the statements in it says that at the end of an IT's product useful life, any consumer should be able to return the product to the manufacturer at no charge by following a process defined by the manufacturer.

So it is apparent that, you know, some of the major people are stepping up. The return should be as convenient as possible, like the purchase of a new product.

The problem that I have is that people just are not aware of these programs. I mean, Dell has one, and HP has one that we see here. But you would think that when you register your new computer, whatever it is, online, that somehow you would be given information as to how it is done.

My question is this. And I know you are not a tire man, you are not a nuclear man, and I know that you don't know the answer to this question. But—

Mr. STEPHENSON. You are going to ask it anyway.

Mr. MANZULLO. Okay, I will ask it anyway. In the process of doing all these studies, is there any way that you can do an addendum or something to this report to this committee—and I am sure I am speaking on behalf of the chairman—at least to give us an idea of how this stuff is done? You know, what centers are available, where they are located.

I mean, I conceivably can see Members of Congress listing on our Web sites links to places where people, you know, can take this stuff and dispose of it.

Mr. STEPHENSON. You know, in one of my many studies we also looked at recycling of, you know, glass, aluminum, et cetera. One of EPA's charters is to encourage recycling. What better way to protect the environment than to encourage recycling?

We have never done a study specifically on that, but the recycling percentages for most products, including electronics, are woefully low. And so there is room.

Part of what was the EPA doing is doing a better job of notifying the public. That is part of what we mean by regulatory program, that that has a chance of success.

There is a lot of room for educating the public on what to do with these.

Mr. MANZULLO. Well, what I see here, Jay Inslee, a good friend of mine, wrote a book called, I think, Apollo's Fire. And he and I have talked. I don't agree with a lot of the politics in there, but one of the conclusions he talks about is the new type of what they call green jobs.

I am looking at, you know, the manufacturing jobs that can be created if there is a way to recycle this. I mean, what you said in your opening statement is that for every person in the United States, at least one item is disposed of each year. You talk about 300 million a year.

I mean, I know Eni and I would be really willing to take that information, to work with it, and see what we can do. But I am just throwing that out to see if anybody has ever quantified that. You probably would end up starting with the businesses themselves to see what they have.

But do you think it is possible to do some type of—Chairman, do you think it is a good idea?

Mr. FALEOMAVAEGA. If the gentleman will yield.

Mr. MANZULLO. Of course.

Mr. FALEOMAVAEGA. Anything is possible, if there is a willingness of the stakeholders and the parties involved here to be participants and be part of the process. And I really think if they really are serious about the after-effects of using these types of, of electronic waste and to the detriment of health of people, especially of those living in poor countries, as my good friend has suggested, why can't we recycle and provide jobs?

You know, Lehman Brothers, 35,000 people are out of jobs, you know, overnight. Maybe they could be part of the recycling process.

I mean, why can't we do it domestically? Why do we have to send these machines and these things overseas?

Mr. STEPHENSON. That sounds like an interesting project, looking at the Federal incentives for recycling of electronics. Not something that we have done, but probably a worthwhile project.

Mr. MANZULLO. The light bulb went off, didn't it? That is great. Thank you, I appreciate that.

And then if you could work with us just, you know, maybe just sketch out what you think where we should go in it, so you don't go off chasing some blind ducks into an area that we will never use.

But just from a manufacturing point of view, I think that has a lot of potential.

Mr. STEPHENSON. We will do that.

Mr. FALEOMAVAEGA. This is news to me. I didn't know that there were blind ducks. I didn't know that we do have ducks that get blinded. Okay.

I think as a follow-up of what Mr. Manzullo had asked earlier, the problem, as you noted in your statement, Mr. Stephenson, companies easily circumvent EPA's regulatory controls. You mean they do it purposely? Not accidentally, not to say oh, we forgot; they did it purposely just to circumvent the regulations.

Mr. STEPHENSON. When we were posing as buyers—

Mr. FALEOMAVAEGA. And no fines, nothing, come into focus about this.

Mr. STEPHENSON. When we were posing as buyers, we have some examples in our testimony, in our report, where they seemed aware of the CRT rule, and were willing to purchase our CRTs anyway.

Now, they are thinking that we are Southeast Asian buyers, so I mean, we just did this over the Internet basically. And I think to this day we haven't shut those down yet. We are still getting proposed offers to sell us broken CRTs.

So yes, I would say that they were aware of the CRT rule in many cases. And chose to ignore it.

Mr. FALEOMAVAEGA. Now, did you say that there were some 43 companies that are involved in the business?

Mr. STEPHENSON. Right. Those are, you know, one of the things EPA said in resisting our recommendation is that this would be too hard. Well, we didn't find it that hard to enforce these regulations. We offered the names of all of these individuals, all of these companies to them, and they ultimately prosecuted one of them.

Mr. FALEOMAVAEGA. I raise the question again. Why is it too hard for us, and yet our European allies find it very able to enforce?

Mr. STEPHENSON. Well, that is the regulatory framework. But even enforcing the rule that is on the book right now, the CRT rule, I am not sure, except that it is a low priority for EPA, I guess.

Mr. FALEOMAVAEGA. You mentioned earlier that EPA has drafted a so-called draft legislation or something to that effect?

Mr. STEPHENSON. That is our understanding. I have not seen it. That deals with the Basel Convention ratification.

Mr. FALEOMAVAEGA. Have you requested a copy of that draft?

Mr. STEPHENSON. We have not. We just noted that in terms of looking at what the U.S. regulatory framework is for exports versus what the rest of the world does.

Mr. FALEOMAVAEGA. Was this just done by this administration? Or was it done with the previous administrations?

Mr. STEPHENSON. No. I believe it has been in the last two administrations, it has been worked on.

Mr. FALEOMAVAEGA. So basically it has been on the shelf for about 17 years.

Mr. STEPHENSON. At least a decade.

Mr. FALEOMAVAEGA. Yes. And in the meantime, this is what we are doing, exporting lead and all these dangerous toxins to other countries of the world.

Mr. STEPHENSON. Well, I mean, we hope that one of the benefits of this hearing is to publicize this issue and maybe get some movement on it.

Mr. FALEOMAVAEGA. Well, not only to publicize, but I sincerely hope, and maybe with my good friend the ranking member, we want to put some teeth in establishing some kind of a statutory requirement, so these companies should comply.

Mr. STEPHENSON. We would support that.

Mr. FALEOMAVAEGA. And let us say that if the foreign countries were exporting electronic waste to the United States, how would we feel about it?

Mr. STEPHENSON. Well, in the House Resolution that you read, I believe Mr. Thompson mentioned the fact that the lead recovered from the CRT tubes may be used in China to put in the paint that gets on the jewelry that is in the children's toys.

Mr. FALEOMAVAEGA. Yes, in the children's toys, yes.

Mr. STEPHENSON. No one can probably prove that, but they are getting the raw material lead from someplace.

Mr. FALEOMAVAEGA. I yield to the gentlelady.

Ms. WATSON. I would like to talk about at this point what we might be able to do in line with the committee's questioning. And how about charging—I would just like your response, Mr. Stephenson—how about charging a fee at the time of the sale of computers that will go to paying for its recycling? And if we did, as an industry, throughout the country, could we keep the prices at a minimum? What do you think?

Mr. STEPHENSON. I am going to let Nathan answer this.

Ms. WATSON. Sure.

Mr. STEPHENSON. He has probably a better memory than I do of that past work that we did 1½ years ago. I don't think it is prohibitively high.

Mr. ANDERSON. I can briefly touch on this, Ms. Watson. The California model that you are referring to, the advanced recovery fee was implemented in California 5 years ago. Unfortunately, that has kind of yielded, in terms of momentum, to the extent it produced a responsibility model. The California model charged about \$10 at the time of sale; the extended producer responsibility model has been implemented by a number of states, basically requiring manufacturers to take back their products, thereby allowing the manufacturers to internalize the cost, have more advanced technologies that actually incentivize recycling.

You know, Congressman Manzullo, you talked about HP and Dell, two very promising manufacturer take-back programs. The only downside of those really is that while they are free for HP and Dell, it still costs \$35 to \$45 for the consumer to ship that product back to HP and Dell. So there is more of an economic incentive to send that to a recycler for \$20, than to pay \$40 to have HP and Dell take their product back.

So again, it all gets down to economics, and who is going to internalize the cost. Right now the momentum seems to be shifting toward having the manufacturers internalize the cost through an extended producer responsibility model.

Ms. WATSON. It seems to me that we need to have a new way of thinking as we go into the future. I mean, there is something created every day. And it seems to me that the cost of returning it to go into the price, with kind of a guarantee, like we do when we buy a piece of equipment for our home, and then part of that money needs to go to research as to how we get rid of this kind of waste. Because the problem only gets bigger in the future.

I am carrying a bill now trying to get mercury out of amalgams, because we are finding that in California again, on the southern coast, that the waste from the dental offices goes into the ocean. And now it is in the tuna, and it gets into the sea life, other sea life and shell life, and so on.

So we really need to have an incentive for the manufacturer to do a little research about how do we get rid of the waste that goes along with the product. And I just want to throw that out, because we need to do more thinking about how we protect ourselves and our environment for the future.

Mr. FALEOMAVAEGA. If the gentlelady—

Ms. WATSON. Certainly, I will yield.

Mr. FALEOMAVAEGA. Yes, ma'am. I guess using layman's terms, we are creating the mess, and we are exporting the mess to the detriment of the health of children and poor people around the world. And I think that is an immoral conduct, as far as I am concerned.

And to suggest that we are unable to put controls and regulate this kind of thing, the fact that our European allies are able to do this, and we are saying that we cannot or could not? I can just imagine our manufacturers will probably complain when we maybe put in, by law, stipulating each electronic product that we produce, it should say how much cadmium, how much lead, how much all of this. And it should be stated in each product, don't you think, Mr. Stephenson? Is that done right now by law, required?

Mr. STEPHENSON. I think we are in the vein of encouraging recycling. And those things will come out. I am not sure if labeling of the dangerous chemicals—computers can be operated perfectly safely. The only problem is if they are recycled or disassembled in an inappropriate way. And that is the problem. Not the dangerous materials that are already in them.

In some cases, I mean, gold is not dangerous, but the way you reclaim it from a circuit board is: Dipping it in acid baths. So it is not the piece of equipment itself, it is the mechanism by which the raw materials are reclaimed that we are concerned about.

Mr. FALEOMAVAEGA. In your best judgment, Mr. Stephenson, do you think that we do have a capability of cleaning this mess that we have created?

Mr. STEPHENSON. Absolutely.

Mr. FALEOMAVAEGA. Or are we just going to let it pass, and continue functioning the way we are now?

Mr. STEPHENSON. We are going to keep making our recommendations until we solve this problem.

Mr. FALEOMAVAEGA. Well, I realize that we are going to be adjourning in a matter of 1½ weeks, but I know that my good friend, the gentleman from Illinois, and I definitely are going to look into this. Not just passing a House Resolution, but I think there should be some kind of a bill or an enactment enabling legislation to simply enforce our, our acquiescing to the Basel Convention.

The fact is that we did ratify it, but we never passed any legislation to implement the provisions of the Basel Convention. I think that is the problem that we are faced with.

In your experience in dealing with some of these companies, would you say, what is your estimate of the number of companies that are good companies doing this?

Mr. STEPHENSON. Good recycling companies?

Mr. FALEOMAVAEGA. Yes. Half and half, or very little, or none at all?

Mr. STEPHENSON. We can get you a list of names of companies.

Mr. FALEOMAVAEGA. Please. Could you send it—

Mr. STEPHENSON. But a large percentage is responsibly recycled. I don't want to leave the committee with the impression that all of this is going to Southeast Asia.

Mr. FALEOMAVAEGA. Can you submit that for the record?

Mr. STEPHENSON. We can.

Mr. FALEOMAVAEGA. Secondly, I am going back to my question again. What is your recommendation for companies that intentionally circumvent EPA's regulatory controls on this?

Mr. STEPHENSON. Well, I mean, EPA has the ability to levee fines. And these are not big companies, and you know, a small fine can be a big deterrent.

But right now, it has been on the books for 2 years, and they have issued their first fine as part of our review. They have never issued a fine before. So hopefully once the word gets out that EPA is enforcing the CRT rule, the others will get the message.

Mr. FALEOMAVAEGA. So for 17 years, the first—

Mr. STEPHENSON. Not 17. The CRT rule has only been on the books for 2 years.

Mr. FALEOMAVAEGA. Yes. What I am saying is before that, there was nothing.

Mr. STEPHENSON. That is true.

Mr. FALEOMAVAEGA. I mean, absolutely zero.

Mr. STEPHENSON. That is true. But this has been, this is a growing problem, as has been mentioned, by the replacement of electronics; that more and more are accumulating in households. Businesses don't know what to do with them. So the problem has reached an epic proportion, such that we need to deal with it.

Mr. FALEOMAVAEGA. So it would be your recommendation that Congress should seriously entertain proposing bills or legislation to provide a remedy to the problem here.

I noticed that in your statement you are pointing to the fact that maybe EPA should do more. My question is the fact is they are not doing what they should be doing, so—

Mr. STEPHENSON. Well, we were discouraged with their response to our report, let us put it that way.

Mr. FALEOMAVAEGA. Well, you are being diplomatic about it. I am just trying to be, you know, up front. I mean, if they are not doing their job, then maybe we need to put more teeth in providing some kind of legislation to force them to, to execute the mandate or the will of the Congress, if you will, put it in those terms.

Mr. STEPHENSON. That may be necessary.

Mr. FALEOMAVAEGA. The gentleman from Illinois.

Mr. MANZULLO. I always have problems with saying that we are going to force it upon the companies to solve the problem. Because what I have seen here from talking with the folks at HP, and looking at this document from Dell, is that they have come up with legislation where they are willing themselves to assume the cost.

Mr. FALEOMAVAEGA. Will the gentleman yield?

Mr. MANZULLO. Of course.

Mr. FALEOMAVAEGA. My only reference is the fact that companies who purposely circumvent the regulatory controls.

Mr. MANZULLO. Yes, and what is interesting, Chairman, is the fact that I believe Mr. Stephenson said there were 26 containers seized in Hong Kong. I have been there a couple of times, and they only examine one out of 1,000 containers. So one can only extrapolate as to the—

Mr. STEPHENSON. Well, in those cases they had help from the Basel Action Network to identify the container numbers. The point of our little story in the testimony is these things went back and forth across the Pacific four times, and nothing was ever done to remove those broken CRTs from the stream. And we lost track of them after the fourth trip back and forth across the country.

We even informed EPA, and they chose not to open the container, not to check them. They said it was too dangerous. But it wasn't too dangerous to send back to Hong Kong.

Mr. MANZULLO. Okay, thank you.

Mr. FALEOMAVAEGA. I would say to my good friend from Illinois I believe Hong Kong is the second-largest exporter of containers. I think about 20 million containers come out of Hong Kong every year. I believe Singapore tops it. And we are down to four or five, with Los Angeles and the Long Beach Port that we have there in California.

Ms. Watson? Well, I think this completes our hearing. I had hoped that perhaps you could have gotten somebody from EPA to also testify. Maybe that will be for the next round.

But Mr. Stephenson, I want to thank you on behalf of my colleagues for doing such an excellent job, and I consider a professional job, in bringing this out to the forefront, not only for the public's attention, but that for my colleagues and the Congress to do something about this situation.

Thank you very much.

Mr. STEPHENSON. Thank you, Mr. Chairman.

Mr. FALEOMAVAEGA. The committee is adjourned.

[Whereupon, at 3:21 p.m., the subcommittee was adjourned.]



# APPENDIX



MATERIAL SUBMITTED FOR THE HEARING RECORD

Mark Small  
Vice President  
Environment, Safety, and Health

**SONY**

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September 15, 2008

The Honorable Erni Falcomavaega  
Chairman  
Subcommittee on Asia, the Pacific, and the Global Environment  
Committee on Foreign Affairs  
2401 Rayburn House Office Building  
Washington, DC 20515

Dear Chairman Falcomavaega,

On behalf of Sony Electronics Inc., I would like to thank you for the opportunity to submit a statement for the record for the House Committee on Foreign Affairs, Subcommittee on Asia, the Pacific, and the Global Environment Subcommittee hearing titled, "Exporting Toxic Trash: Are We Dumping Our Electronic Waste on Poorer Countries?" scheduled for Wednesday, September 17, 2008.

Sony Electronics Inc. ("Sony") has long been concerned with the shipment of hazardous electronic waste to developing countries. For several years, we have been working to address those concerns and have established ourselves as a leader in our industry. After many years of research and planning, Sony has eliminated virtually every hazardous constituent from the products we sell today. Moreover, we are committed to continue our design efforts until we have eliminated all hazardous substances.

Sony is a recognized industry leader in the environmentally-friendly design of our consumer electronics and information technology products. We have now made an even stronger commitment to environmental stewardship. Last year, we announced a ground-breaking program to encourage consumers to recycle and dispose of electronic devices in an environmentally sound manner.

Sony implemented the first national recycling initiative in the U.S. to involve both a major electronics manufacturer and a national waste management company. Our program provides customers free recycling of any of their unwanted Sony products. Under this program, Sony takes full manufacturer responsibility for all products that bear the Sony brand. We will recycle those products at no cost to the consumer. This includes not only consumer products, but business and professional products as well. While Sony will recycle its own products for free, our recycling locations will also accept non-Sony consumer electronics and information technology products.

Sony has set a goal to recycle one pound of consumer electronics goods for every pound sold. This is sustainability.

Recyclers who participate in our program must meet the highest standards and cannot export hazardous waste materials to developing countries. Sony directly audits our recyclers to ensure strict compliance. Because there are no federal standards on recycling, we worked with non-government organizations (NGO'S) to develop stringent models and we require all of our recyclers to meet the standards developed by these NGO's.

Sony leadership will not in itself address the issue without the help of the federal government. Several states and numerous cities have passed an array of recycling regulations, which makes it almost impossible to truly carry out the intent of our program.

Some of these programs limit what we can do and prevent us from properly managing our materials. States such as Maine force companies to pay recyclers and eliminate all control of what those recyclers do with the materials. As a result, Maine indirectly provides an incentive to companies that only stay in business for short period of time. Other states and cities take equally difficult approaches to this issue, making management by reputable companies like Sony difficult and costly.

The issue of what to do with electronic waste, preventing its exportation, and general sustainability transcends city and state boundaries. Without strong leadership and direction from Washington, electronic waste will have a serious impact upon the US and global populations, resulting in environment, safety and health concerns.

Sony has taken the challenge and has addressed what we believe is in our power to control. We ask that the federal government do the same. We encourage legislators to develop strong federal regulations covering the collection, recycling and export of electronic waste, preempting the myriad of inefficient and ineffective state and city regulations.

Thank you again for this opportunity. Please do not hesitate to contact me should there be any questions or if you would like additional information regarding Sony Electronic Inc.'s national electronics recycling program.

Sincerely,



Mark Small  
Vice President  
Environment, Safety and Health

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washingtonpost.com

## EPA Lets Electronic Waste Flow Freely, GAO Report Says

By Juliet Eilperin  
Washington Post Staff Writer  
Wednesday, September 17, 2008; A11

The Environmental Protection Agency has done little to curb the export of discarded electronic products containing hazardous waste, much of which ends up in poorly regulated countries and harms the environment and public health, the Government Accountability Office concluded in a report being released today.

The 63-page report -- commissioned by House Foreign Affairs Committee Chairman Howard L. Berman (D-Calif.) -- is a scathing critique of the EPA's failure to control the export of used electronic equipment, which often is sent to China, India and other countries to be dismantled under unsafe conditions. U.S. authorities have yet to develop a national approach for handling the waste, which often contains toxic metals such as lead, mercury and cadmium. Amounts are rapidly growing as consumers replace their laptops, cellphones and televisions.

"It's a really inadequate situation that we've allowed to continue," said Berman, whose panel is holding a hearing on the issue today. "We have a regulation where, as far as I can tell, there's no effort to enforce it."

EPA spokesman Timothy Lyons took issue with the report, saying the agency is working hard to enforce a January 2007 rule that requires the EPA to oversee the export of cathode-ray tubes. "In the 18 months since the CRT rule went into effect, EPA initiated 20 investigations, recently issued one complaint and entered into one settlement," Lyons wrote in an e-mail. "Improving compliance with the rule is our top priority as we continue our efforts to educate the public and the regulated community about the new rule, and take enforcement action when necessary."

But it was GAO officials who alerted the EPA to violations by Jet Ocean Technology, a company in Chino, Calif., from which the EPA is now seeking a \$32,500 penalty. Company officials could not be reached to comment yesterday. The report said that dozens of other U.S. companies are circumventing the CRT rule, while other electronics containing toxic materials are flowing overseas with no restrictions. The EPA cannot identify where 80 percent of U.S. electronic waste is headed, it said.

"U.S. law allows the unfettered export of nearly all types of used electronic devices," the report said. And though the agency has a regulation that governs disposal of cathode-ray tubes, the "EPA has done little" to set up an enforcement program.

Toxic materials in electronics do not leach out while the products remain intact, but once they are disassembled, the ingredients can enter the air and water. A 2007 study in the journal *Environmental Health Perspectives* found that children in Guiyu, a Chinese village where discarded electronics are dismantled, have lead levels in blood that are 50 percent higher than limits set by the [Centers for Disease Control and Prevention](#).

Democratic Reps. [Mike Thompson](#) (Calif.), [Gene Green](#) (Tex.) and [Bart Gordon](#) (Tenn.) have tried for several years to broker a consensus on electronic recycling among the players, which include manufacturers as well as retailers and state and local governments.

"We're making progress," Thompson said, but "it's really hard to find any community of interest that says, 'Why don't you develop some laws and regulate and tell me how to do my business?'"

Thompson has drafted legislation calling for manufacturers to take more extended responsibility for their products and requiring manufacturers, retailers and recyclers to share the task of creating a national program to collect, transport, reuse and recycle electronic waste. Currently the issue is addressed by a patchwork of e-waste laws enacted by 16 states and New York City. Fifteen states require manufacturers to pay the cost of recycling their products.

Parker Bruggs, vice president for environmental affairs for the [Consumer Electronics Association](#), said manufacturers, retailers, consumers and governments all must play a role. "Our position is it should be a shared responsibility among all stakeholders," Bruggs said. "It's really a resource conservation issue; there are valuable components in these products that can be reused."

The report said some U.S. recycling companies are lying about their environmental credentials. By setting up fictional brokers in Hong Kong, India, Pakistan, Singapore and Vietnam, GAO investigators found that 43 U.S. recyclers were violating the CRT regulations, yet nearly all of them touted their environmental friendliness on their Web sites. One Denver area company that illegally shipped CRT monitors overseas boasts on its Web site that "your e-waste is recycled properly, right here in the United States, not simply dumped on somebody else."

Some environmental groups, such as the Electronics TakeBack Coalition, argue that the United States should ban the export of all electronics that are due to be dismantled.

Casey Harrell, an international toxics campaigner for the advocacy group [Greenpeace](#), said policymakers and consumers must also pressure manufacturers to make more environmentally friendly products in the first place.

