

Illegal Export of e-Waste from Australia

A story as told by GPS trackers

basel action network

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August 8, 2018

(updated Sept. 12, 2018)

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Acknowledgement of Assistance

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Made possible by a Grant from the United Nations Regional Enforcement Network (REN) on Chemicals and Waste



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Executive Summary

In September and October of 2017 BAN deployed 35 pieces of non-functional electronic waste equipment including CRT monitors, LCD monitors and printers with GPS trackers imbedded within them across Australia. All of the equipment qualified under the Basel Convention as hazardous waste. 14 units of equipment were deployed in the Brisbane area, 13 in the Sydney area, 3 in Adelaide, and 5 in Perth. Out of these 35 trackers 2 were exported (5.71%), 1 moved to a seaport and was likely exported (2.86%), 11 moved to a Recycler (31.4%), 4 moved to a landfill (11.4%), 7 never moved, (20%), 7 had no signal after delivery (20%) and 2 moved to an unknown location (5.71%). 2 are still reporting regularly and the rest have gone quiet, meaning they could be bulldozed into a landfill, buried deep in a warehouse, or shredded or disassembled by a recycler.

Exports from OfficeWorks

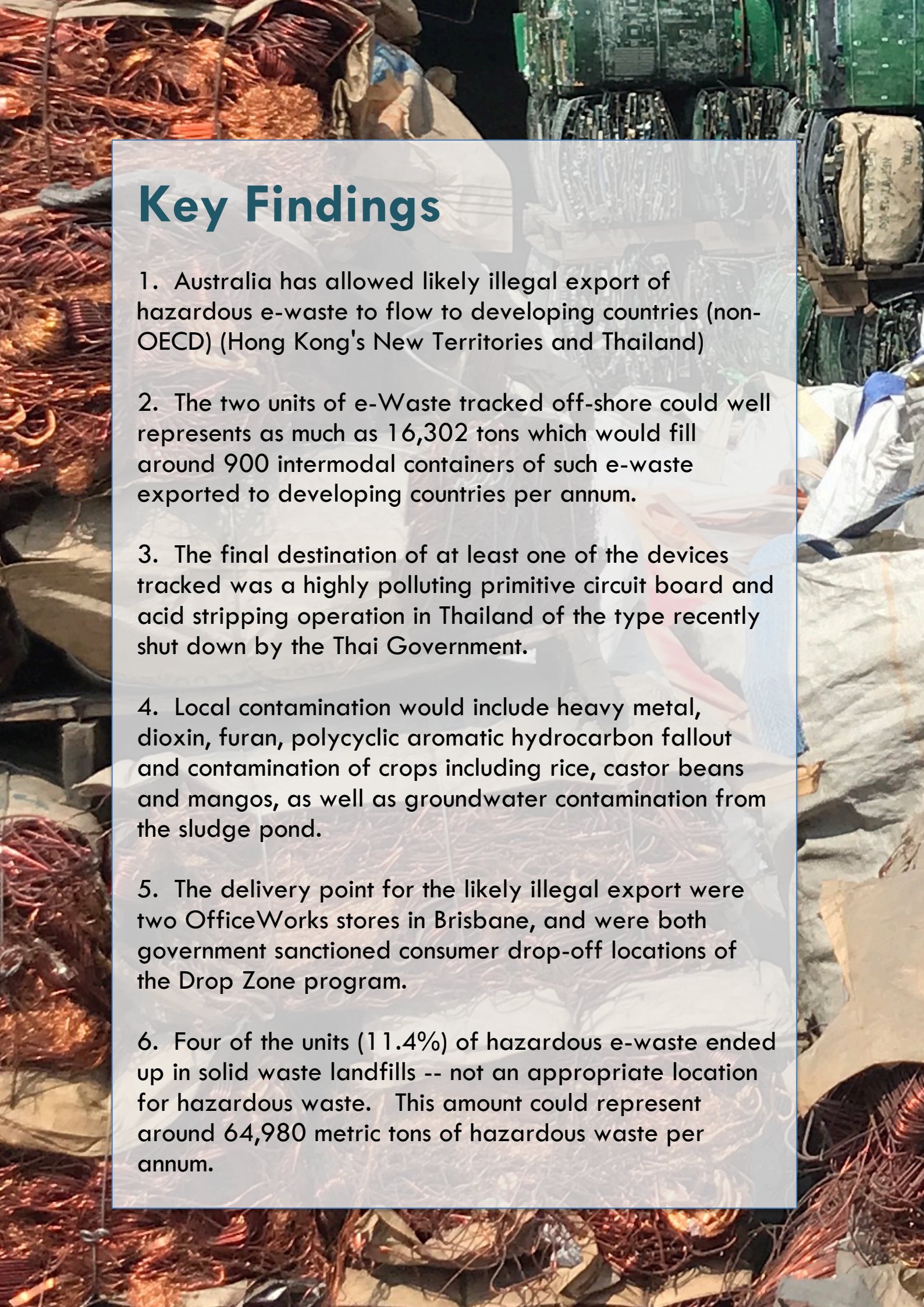
Three of the devices appear to have been exported, with two definitely going to Hong Kong's New Territories area. Both of these were LCDs monitors from the Brisbane area and one of these was later re-exported to an e-waste processing facility in Thailand. The two exported LCDs were deployed at different OfficeWorks stores in the Brisbane area. Officeworks' "Bring I.T Back" as a "Drop Zone" location is an official Australian Government public drop-off location that the public is encouraged to use for their electronic recycling. Officeworks, according to their website, considers itself to be a very sustainable company. The third device, another LCD left at Endeavor Foundation Industries, another government approved e-waste drop-off location, last signaled at a container dock at the port of Brisbane and was likely exported- though it has yet to signal again.

Site Visits

BAN traveled to the two locations in Asia where the two exported LCDs ended up. Both of these, without showing any other stopping points after their respective OfficeWorks deliveries, were joined in one intermodal container and shipped to the Ping Che area of New Territories, Hong Kong. Ping Che is an infamous area of Hong Kong for e-waste trafficking where most commonly undocumented laborers are involved in the crude and harmful breakdown of the equipment, often exposing them to dangerous toner dust, and, in the case of LCDs -- the toxic metal mercury. However, when we visited the location a few months after the arrival of the LCDs, there was no trace of e-waste in the facility – apparently, it had been cleaned out and one of the tracked devices stopped signaling. The other one, however, we visited its second location in Thailand. In Thailand that LCD monitor arrived at a location that was involved in crude smelting of circuit boards, creating deadly dioxins and furans, and polycyclic aromatic hydrocarbons.

Illegal Exportation

There can be little doubt that these exports were illegal due to the fact that all three countries concerned, Australia, China (including Hong Kong), and Thailand are all parties to the Basel Convention. Due to the presence of mercury in the backlights of these LCD monitors and the lead in the circuit boards of the monitors, and because the equipment was rendered non-functional, the equipment was clearly a hazardous waste under the definitions of the Basel Convention. As such, all exports would require that they be notified prior to export by the government of Australia and consented to by the initially receiving government of Hong Kong. Thailand, in recent weeks, has made it abundantly clear that they are not happy receiving e-waste imported illegally en masse to primitive processing facilities that have been springing up all over their territory following China's own importation ban (see Current Trends in the e-Waste Trade).



Key Findings

1. Australia has allowed likely illegal export of hazardous e-waste to flow to developing countries (non-OECD) (Hong Kong's New Territories and Thailand)

2. The two units of e-Waste tracked off-shore could well represents as much as 16,302 tons which would fill around 900 intermodal containers of such e-waste exported to developing countries per annum.

3. The final destination of at least one of the devices tracked was a highly polluting primitive circuit board and acid stripping operation in Thailand of the type recently shut down by the Thai Government.

4. Local contamination would include heavy metal, dioxin, furan, polycyclic aromatic hydrocarbon fallout and contamination of crops including rice, castor beans and mangos, as well as groundwater contamination from the sludge pond.

5. The delivery point for the likely illegal export were two OfficeWorks stores in Brisbane, and were both government sanctioned consumer drop-off locations of the Drop Zone program.

6. Four of the units (11.4%) of hazardous e-waste ended up in solid waste landfills -- not an appropriate location for hazardous waste. This amount could represent around 64,980 metric tons of hazardous waste per annum.

Introduction

In recent years, the Asia Pacific region has found itself a target of the world's most globally traded waste -- electronic waste or e-waste. E-waste is the fastest growing new waste stream today and due to the ubiquitous use of toxic metals such as cadmium, lead, and mercury, as well as organic compounds such as brominated flame-retardants, it is considered hazardous waste under the Basel Convention.

The Basel Convention is the world's only treaty about waste and Australia was one of the nations to ratify it and become a Party. To assist us in telling our story, it should be noted that most countries of the world, including China, and Thailand are also Basel Parties. The Basel Convention is designed to strictly control the export of hazardous wastes from developed to developing countries. It is a regulatory response to the economic phenomenon of avoiding the costs of environmental protection by externalizing them via trade to locations least able to deal with such wastes and where its management may be harmful to human health and the environment.

Since our first groundbreaking report and film "Exporting Harm: The High-Tech Trashing of Asia", released in 2002, the Basel Action Network (BAN) has continued to observe, document and campaign against the trade of hazardous e-waste as they have moved inexorably and often illegally from rich developed countries to poorer global communities, particularly in Asia. These movements take place for economic reasons and are instigated by those wishing to avoid the costs of proper, but more expensive waste management as required or are norms in Japan, Korea, Australia, New Zealand, in North America and in Europe.

The improper processing that occurs in the informal sectors found in importing countries such as China, Pakistan, India, Nigeria, Ghana, and more recently in Southeast Asia first documented by BAN have now been quantified by numerous scientific studies conducted in the wake of BAN's investigations. These scientists have found very serious negative environmental and occupational health impacts, with some of the pollution and exposure levels rating as the worst ever recorded. And the identified dangers are not just isolated to the immediate victims. Due to the phenomenon of long-range transport of atmospheric pollutants, as well as international trade in contaminated food or products, indirect impacts can be felt across the entire planet. For every computer, phone or peripheral, exported to such a fate, the world's biosphere becomes ever more toxic.

But to be clear, what BAN has highlighted in all of our reporting is not *the* problem, so much as a false solution. *The problem* is that we as a society are creating and processing and consuming far too much toxic material -- far too often. We are all complicit, as we continue to purchase unsustainable, short-lived electronic products, as are the manufacturers, including electronics manufacturers who give us little choice but to do so.

The solution with respect to e-waste involves creating and consuming less hardware, using no more toxic materials, and ensuring that the hardware that is produced is readily upgradable, repairable and long-lived. And, when all re-use options are exhausted -- readily and safely recyclable. In other words, the solution to externalizing the costs in the form of pollution and wasted resources to the vulnerable lies in ensuring and designing for internalizing the costs at the outset of product conception.
What is *not* a solution to the problem identified is externalizing costs and sending harm to the world's desperate workforces in disparate, forgotten places on earth. But we realize that as long as these quick and dirty false solutions remain un-penalized they will continue to be exploited. For this reason, it is paramount to continue to mount pressure to enforce the Basel Convention and the Basel Ban and prevent all countries from using their global neighbors as as dumping grounds.

The Basel Convention exists to prevent this outcome and further proposes to achieve this goal through the adoption, in 1995, of a proposed amendment (the Ban Amendment) that would, when in global force, forbid all forms of exports of hazardous wastes from the rich OECD and EU group of developed countries to all other countries of the world.

Among the OECD group of so-called developed nations, only the United States has failed to ratify the Basel Convention. Thus, it has no Basel-induced control procedures in its laws and few other legal constraints to prevent US industry and traders from simply exporting US wastes to developing countries to enhance profits. The flow of American derived electronic waste to developing countries has, in the course of the last 20 years been massive by any calculation and represents an environmental tragedy.

But a handful of other countries known collectively as the JUSCANZ, which include Japan, the United States, South Korea, Canada, Australia, and New Zealand, while remaining Basel Convention Parties, fight vehemently against the Ban Amendment and refuse to ratify it. Today though that amendment is but three Parties from entering into the force of injustice of the international waste trade and embrace the Ban Amendment.

international law. It is our hope that these countries will recognize the environmental

Most of BAN's recent studies have involved tracking of e-Waste from the United States which sadly leads the world in e-waste exportation as it is not beholden at all to the obligations of the Basel Convention.

Recently we have decided to utilize our GPS tracking technology to check on other developed countries to understand how prevalent the problem might be in these countries, even when most such exports might be illegal.

With the generous support of the United Nations REN program, we have employed our GPS tracking technology, in Australia to help bring the e-waste trade picture in the Asia Pacific region into focus. To some degree, the e-waste dumping tragedy can be said to be continuing and but is clearly, due to China's actions, is shifting to new unwitting target countries. But at the same time, we are seeing some significant positive developments as governments and businesses react to our data and warnings, and halt the downstream dumping, and by so doing demand appropriate action upstream. It is hoped that with the help of this report, Australia will do the same.



Technology's Toxic Trash Is Sent to Poor Nations

By JOHN MARKOFF

SAN FRANCISCO, Feb. 24 — The global export of electronics waste, including consumer devices, computer monitors and circuit boards, is creating environmental and health problems in the third world, a report to be issued on Monday by five environmental organizations says.

The report says that 50 to 80 percent of electronics waste collected for recycling in the United States is placed on container ships and sent to China, India, Pakistan or other developing countries, where it is reused or recycled under largely unregulated conditions, often with toxic results.

The groups said there were no precise estimates of the amount of such waste currently created by the disposal of obsolete consumer electronic and computing gear. The Environmental Protection Agency estimated last year, however, that in 1997 as many as 3.2 million tons of "e-waste" ended up in United States landfills and that the amount might increase fourfold in several years.

The groups also cited National Safety Council estimates that as many as 315 million computers have or will become obsolete from 1997 to 2004, generating a wide range of potentially toxic wastes.

For example, each color computer monitor or television display contains an average of four to eight pounds of lead, which can enter the environment when the moni-

The story that started it all. First article based on Exporting Harm report on the discovery at Guiyu, China. *Copyright New York Times 2002*

e-Waste Tracking in Asia

Ground Zero: Guiyu

In 2002 BAN first published the groundbreaking report and film: Exporting Harm: The High-Tech Trashing of Asia. This report, which centered on what at the time, was the world's largest electronic waste dumping ground created the first real awareness of the e-Waste crisis. The story of this first visit was featured in the New York Times and soon thereafter was widely reported around the world. Following these first discoveries of the world's e-waste piling up in Guiyu, China, (near Shantao in Guangdong Province), BAN began its investigations into the smuggling pathways into Guiyu and other areas in China and around the world that receive e-waste from developed countries of the world. These investigations continue to this day.

New Territories' Role in e-Waste Smuggling

Early on, BAN was able to find pathways by following-up on numerous solicitations being made by Hong Kong-based waste brokers to recyclers in the US all seeking to buy electronic scrap to send to China. Recyclers concerned with this trade and not wishing to participate in shared these with us and, in this way, we quickly became aware of the role of Hong Kong as a major smuggling port and the use of the New Territories area for staging facilities for the scrap equipment. In the period between 2004-2009, BAN made numerous visits to New Territories area to observe and document the smuggling operations first hand. The operations were initially concentrated in the Ping Che area but over the course of time began widening in range to encompass the entire length of New Territories, which stretches across Hong Kong's northern border with Mainland China. There, one could openly observe intermodal arriving by truck from the port, their seals being broken and the e-waste contents unloaded and placed behind tall steel fences. Such operators amassed large collections of cathode ray tubes (CRTs), printers, computers, lead-acid car batteries and other electronic scrap from overseas. The waste was in those days, not dismantled or recycled in Hong Kong but rather stored temporarily, then sorted, and finally reloaded onto smaller trucks and driven across the border into mainland and on to Guiyu and other Guangdong province destinations.



Container arriving at New Territories electronic waste junkyard from the port of Hong Kong. The seal is being broken and content will quickly be unloaded and carried behind the steel fences. Copyright BAN 2008



Hong Kong New Territories Junk Yard at Ping Che, taken by BAN from a helicopter as part of 60 Minutes documentary shoot. Mountains of CRTs from the United States prior to EPD crackdown on CRTs. Copyright BAN 2008.

In 2008 and in 2009, BAN worked with the US television news magazines CBS's 60 Minutes, and PBS's Frontline respectively to illustrate the smuggling pathway from the US west coast, to Hong Kong port, on to New Territories, and onward again to Guiyu. Those award-winning reports were widely viewed and contributed to putting new, but not decisive pressure on governments in both the United States and in China/Hong Kong to do something to staunch the illegal trade in e-waste from North America to China. One of the results was that Hong Kong's EPD did become stricter and began to enforce against imports of lead-acid batteries and CRTs entering the country. This was important because the disposal of CRTs (the older large and heavy TVs and computer monitors) used in that time, was reaching a peak, as the entire developed world switched to flat-screen LCD monitors.

During this period BAN conducted much of its e-waste tracking research by following intermodal containers by their numbers and cross-referencing these with online shipping company data. In this way, we could determine the ship, the receiving port and the date of arrival. Consequently, we were able to alert authorities, including the Hong Kong EPD of pending shipments. Over the course of the years 2008 to 2013 BAN was able to track 283 container exports from the US and Canada with 72% of these ending up in Hong Kong or Mainland China.

The Promise of GPS Tracking

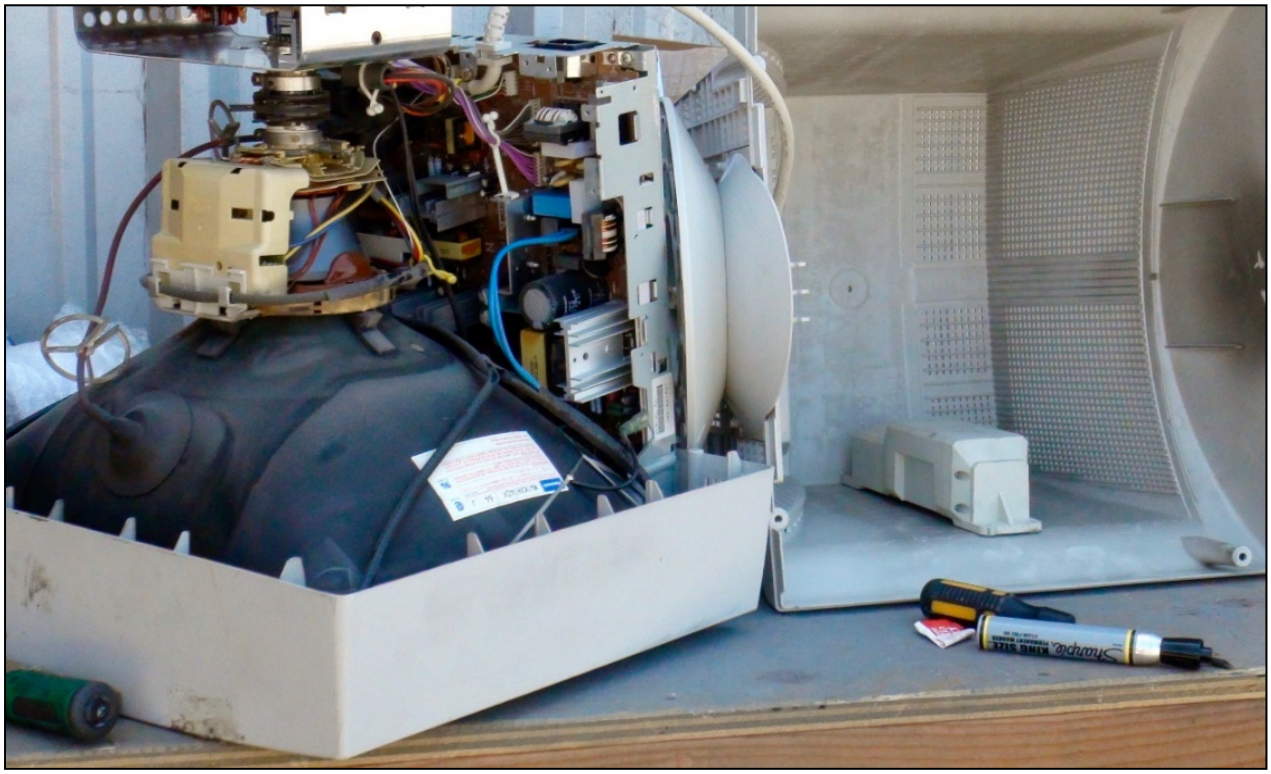
Container tracking was useful to a degree. It could give us an indication of the port a container arrived at and show destination country trends, but it could not provide our citizen enforcement effort with the precise addresses of the consignees. We could not follow the e-waste past the port. Without the consignee address, we could not be sure the fate of the waste nor allow the importing countries to prosecute the illegal importers. It was during our work to try and find the end-points of the container loads crossing into China from Vietnam when we decided to experiment with GPS trackers to ascertain where all of those CRTs were ending up.

We worked in this period (2011-2013) with the Massachusetts Institute of Technology's SenseAble Cities Labs to develop the best means of tracking actual waste.

Our work, while not ultimately successful in finding the endpoints of the CRT glass, did do an excellent job of following the plastic housing of the CRTs. Subsequent efforts to implant the tracker into the glass CRT were unsuccessful. The success of the plastic housing tracking, however, convinced us that there was a promising future in GPS tracking. If one could properly attach the tracker, provide it with enough battery life, the accuracy was truly amazing, bringing us to hidden piles of e-waste in warehouses and

BAN Container Tracking from North American Ports to Foreign Destinations 2008 – 2013							
Country	**2008**	**2009**	**2010**	**2011**	**2012-13**	**Total**	**%**
Hong Kong	58	32	32	26	28	176	62
China	5	5	10	5	2	27	10
Pakistan	1	4	0	2	8	15	5
Vietnam	6	2	5	1	0	14	5
Indonesia	1	1	10	0	0	12	4
Malaysia	8	0	0	0	0	8	3
Taiwan	1	5	0	1	0	7	2
Thailand	1	1	2	0	0	4	1
South Korea	3	0	0	0	0	3	1
Macau	0	0	0	3	0	3	1
Singapore	0	1	1	0	0	2	1
Countries receiving one container: Belgium, Côte d'Ivoire, Dubai, Egypt, Honduras, India, Japan, Nigeria, Peru, Saudi Arabia, South Africa, Uruguay.						12	5
TOTAL						**283**	

Table of BAN container tracking from Canada and the US from 2008-2013.



Early efforts to use GPS trackers to follow CRT movements to China working with MIT. Tracking device ready to be mounted with epoxy inside the housing of CRT. Los Angeles, California. Copyright BAN 2011.

behind bushes and trees at farms in China, Malaysia, and Indonesia.

However, the cost of the technology is significant -- about 300 US dollars per tracker deployed. While this would be a small part of a corporate due diligence or a government enforcement budget, it was challenging for a small non-governmental organization. If we wanted to launch a large-scale operation, to get real waste flow data, we would need to do some fundraising.

The Hong Kong New Territories electronics junkyards were operational as purely smuggling depots for at least a decade. However, in the period between 2012-2015, Mainland China progressively began to enforce their border controls against e-waste trafficking. First, they completely shut down the Vietnam border pathway with a sweeping customs action at Dongxiang in 2014. And, nationwide, in an effort to screen out "dirty" scrap streams with high levels of contamination they heightened customs operations up and down the coast. Further, they required inspections of shipments by a Chinese agency conducted in the US prior to export. These efforts were collectively known as the “Green Fence” and were very successful at reigning in smuggling. Basically under the "Green Fence", laws such as the e-waste importation ban that has been the law since the late 1990s in China was being enforced and smuggling and the enablers of smuggling were prosecuted. This led to direct imports of whole electronic equipment no longer possible.

In 2015, China took an even more dramatic step when they finally, after a decade of promises to do so, closed all of the informal and storefront operations of Guiyu down. Most of these operators were engaged in the highly polluting enterprise of cooking circuit boards, washing and melting parts, smelting metals and using acids to strip gold from the chips. In a joint federal, state and local edict, they declared all such operations shut down, and forced any that wished to remain in business would need to move into a massive, newly constructed industrial park just outside of town. Moreover, they ensured that all e-waste coming into the park would be inspected and that no waste from abroad would be permitted. Guiyu today is now fundamentally transformed and a BAN unannounced inspection in December of 2015 confirmed that no imported waste is allowed through the gates of the industrial park and the town itself is a ghost town.

The complete closure of the informal sector in Guiyu and a prohibition of imports coming there was a belated, but major victory for the environment. Had it not taken more than a decade, we would have all celebrated more.



Symbol of a closed chapter in the history of e-waste mismanagement. Cut and removed chimneys in Guiyu town, just a few of hundreds of such retrofitted chimneys behind which hundreds of migrant women sat cooking circuit boards. Copyright BAN 2015

e-Trash Transparency Project

In 2014 BAN finally received a major grant by the Body Shop Foundation allowing BAN to launch the e-Trash Transparency Project, the largest deployment of GPS trackers to monitor electronic waste trade in history. Central to the project, as suggested by its name, is the belief that the public has a right to know how its hazardous waste is being managed and that all recyclers, manufacturers, and enterprises should not fail to make that information public. Just as we precisely know where our sewage goes, and which landfills our municipality uses, the public should have the right to know how their hazardous e-waste is being handled.

The project resulted in a significant discovery, which could only have been understood by the use of GPS trackers. We learned by visiting the tracker end-points with follow-up site visits to the reported latitude and longitude coordinates, that the former smuggling depots of old, were now the new locations for the informal dismantling that used to take place in Guiyu. It seemed that the enforcement actions initiated by Mainland China on their border had resulted in a serious impact on Hong Kong. Guiyu had passed the mantle for dirty recycling and dismantling on to New Territories, Hong Kong.

In total BAN deployed 205 trackers with a significant volume of the tracked waste moving directly to Hong Kong, New Territories. Visits the end-points revealed that no longer were these sites smuggling but rather were involved in dirty dismantling. All of these discoveries and data were made available in the publication of two major reports, *"Disconnect: Goodwill and Dell Exporting the Public's E-waste to Developing Countries"*, *"Scam Recycling. e-Dumping on Asia by US Recyclers."* and two updates.

The discovered contamination and harm was fully documented by extensive media attention to our reports in both the US and in Hong Kong. In particular, the discoveries were featured on national Public Broadcast System TV in the US and in Hong Kong by an in-depth, award-winning series of reports by the Hong Kong Newspaper HK01. All of the coverage

Hong Kong Reacts

The extensive media coverage of BAN's e-Trash Transparency Project in Hong Kong created a political firestorm in Hong Kong's Legislative Council and helped instigate new reforms in electronics recycling policy.

Already the Hong Kong government was preparing new extended producer responsibility legislation -- The Promotion of Recycling and Proper Disposal (Electrical Equipment and Electronic Equipment) (Amendment) Ordinance passed in March of 2016.

That legislation would see manufacturers footing the bill for Hong Kong citizens' own e-waste recycling and a new government-owned recycling center established at the EcoPark. However, that legislation was mute on the imported e-trash finding its way to New Territories. This was partially rectified in no small part due to our tracker project.

The EPD also engaged in numerous enforcement inspections and raids of the facilities BAN's trackers found as well as from site discoveries of their own. Prosecutions and penalties were levied against operators and while the amounts were minimal, the impact was felt and well publicized.

Most effective was a new licensing package of operational requirements for the junkyard electronics recyclers under the Promotion of Recycling and Proper Disposal (Electrical Equipment and Electronic Equipment) (Amendment) Ordinance.

This new legislative package will apply to eight categories of regulated electrical equipment: washing machines, refrigerators, air-conditioners, televisions, computers, printers, scanners and monitors. Any person engaged in the storage, treatment, reprocessing or recycling of regulated WEEE must obtain a waste disposal license, while a permit will be required for the import and export of regulated WEEE by these newly regulated facilities. The aim of the new controls is to ensure environmental requirements are met throughout the e-waste treatment and

dismantling process, and the discharge generated does not pollute the environment or cause nuisance to the neighboring area. These controls will begin December 3, 2018.

China's National Sword

By far the most significant development on the e-waste trade in the Asia Pacific Region took place at the beginning of this year -- 2018. China sealed its deal to turn away e-waste smuggling by implementing its "National Sword" policy. This policy, which is said to be an initiative authorized by President Xi himself, has gone further than the former "Green Fence" policy. It is a very strict import prohibition for almost all forms of scrap including e-scrap. It will not likely go challenged at the WTO as such a ban is absolutely within the rights of Basel Convention Parties and such rights were agreed on a very large majority multilateral basis. Despite a lot of industry protest, there are no signs that China will relent and allow scrap flow towards China. They appear to finally be realizing the disadvantage of importing hazardous residues and scrap that is very difficult without causing serious pollution. This National Sword Policy appears to be responsible for some of the very recent trends being demonstrated by the GPS tracking results -- including the most recent trend -- the Southeast Asia waste invasion.

South and Southeast Asia Invasion

Even before the announcement of the National Sword Policy, China's closure of Guiyu and increased customs enforcement at their border to halt e-waste imports was showing signs of a mass deflection effect with increasing indication of e-waste importation moving to Pakistan and to Thailand. Our trackers were increasingly showing this as well as whistleblower tips describing large-scale operations being set up in Thailand and other Southeast Asian countries by Chinese and Taiwanese businessmen moving their operations away from China in order to continue their dirty business as usual.

In February and again in July of this year, BAN visited Thailand. Out first trip found three sites where illegal e-waste imports were ending up. Chinese businessmen operated all these sites and at least two of them employed undocumented laborers from Myanmar. One of the sites, dubbed the "dioxin factory" due to its large crude smelter, employed to burn circuit boards to extract crude ingots of copper from the imported e-waste. The site's smokestack was inevitably releasing large amounts of dioxin, furans, polycyclic aromatic hydrocarbons, and heavy metals into the local environment, which just downwind included cattle pastures. At another site, which we discovered due to a tracked LCD device we deployed in Germany, revealed a site with about a dozen workers living in cardboard box constructed shacks, with squalid sanitation, breaking down CRTs and LCDs by hand.

BAN previously warned the Thai government about these sites and the illegal importation but never received a response. We were quite worried that the Thai government was complicit with the polluting Chinese e-waste businesses rapidly invading their territory. However, in May, the government conducted a massive and highly publicized raid on an e-waste importing facility run by the Chinese firm, Wai Mei Dat.

Soon after they raided several other facilities and on June 24th announced a total e-waste and plastic import ban. Upon our visit in late July, the "dioxin factory" site described above had a padlock on the gate and the staff told us they had been barred from bringing any materials in or out of the facility. The smelter was shut down and no smoke left the stack. However, it appeared that workers were still inside and the site had grown considerably with new buildings in just 6 months. It is not known as this time whether the e-waste import ban imposed by the Thai government will remain and whether other countries in the region will follow suit. It does appear, however, that the fear of the China ban -- simply deflecting the waste to new victim countries and communities is being realized.



Drone view of "dioxin factory" where circuit boards and wires are burned in a giant smelter. Toxic smoke belches from the stack, while ash piles are visible in the foreground, and imported electronic equipment seen in the background. Copyright BAN, February 2, 2018.

Drone shot of Wai Mei Dat grounds sprawling with imported e-Wastes in Super Sacks. Photo Copyright: The Nation, Thailand Portal. May 22, 2018





Undocumented workers rounded up by Royal Thai police at Wai Mei Dat. Clip from raid video produced by CameraFi, Thailand. May 22, 2018. Copyright CameraFi

Methodology

In the Australian study we aimed to find out where the e-waste of normal consumers might end up. In the target city areas then of Adelaide, Perth, Sydney, and Brisbane we attempted to replicate what a citizen might do. We drew the delivery sites for the most part therefore from the well-publicized Planet Ark website and dropzone.org.au. BAN used the same tracking hardware as used in the initial e-Trash Transparency Project but this time we made an important battery re-engineering to eliminate the potential fire risk from Lithium Ion batteries.

The device types were:
• CRT (cathode ray tube) monitors or televisions
• LCD (liquid crystal display) monitors or TVs containing CCFLs (mercury-containing cold cathode fluorescent lamp)
• Inkjet or LaserJet printers
• Desktop computers

These devices were chosen because each contains components that qualify the equipment as hazardous waste, and thus each should be controlled under international law (e.g. the Basel Convention). Additionally, these devices have sufficient room inside to plant trackers and batteries. All units were made non-functional and not economically repairable prior to deployment in order to make the legality of the export issue more certain and distinguish from those claiming their exports are to support alleged reuse.

To establish and maintain a chain of custody, and proof of delivery, BAN recorded a video of each tracker installation in the e-waste equipment as well as each delivery. These were videos shot covertly of the serial numbers and the deliveries -- usually a walk-up to a loading dock or office. Proof of recycling was also received (e.g. receipt) when provided.



BAN's Hayley Palmer lines up a LCD monitor after having installing a tracker in it for subsequent delivery to an electronics "recycler". Copyright BAN 2017.

The Australian Trackers

According, to a global study by the United Nations University, in 2016 Australia generated 570,000 metric tons of e-waste or 23.6 kg/inhabitant. Of this only about 7.5% is believed to be collected and recycled. See: https://collections.unu.edu/eserv/UNU:6341/Global-E-waste_Monitor_2017__electronic_single_pages_.pdf

It is clear that our sample sizes of 35 e-waste units, (assuming an average of about 5 kg. each) is small in relation to the annual national weights, described above. This makes extrapolation uncertain exercise except for the sake of argument. Nevertheless it is clear that 2 exported units are indicative of a far bigger matter than simply 2 exported devices weighing approximately 10 kilograms.

If we do extrapolate for the sake of exploring what a scaling of the problem could well mean, we can take our definite export figure of 2.86%, and ignore the other, "likely exported units"; we arrive at an annual figure of 16,302 metric tons of hazardous waste exported to developing countries. This is the equivalent of about 900 40-foot intermodal containers worth of hazardous waste!

Further, 4 of the tracked hazardous waste (11.4%) of the total ended up in solid waste landfills. This represents about 64,980 metric tons of hazardous waste going into a solid waste landfill per annum.

The following table describes in greater detail what our trackers have told us. The chart shows the movement and types of all 35 pieces of tracked equipment. It also indicates the addresses of the drop locations and whether or not they are a government approved drop location.



View of sludge pond with outfall in upper left corner. Where residues from aqua-regia process are believed to be dumped. Slag piles from smelter are seen left of the pond. Copyright BAN, July 2018.

Trackers Deployed in Australia
September - October 2017

Tracker Number	Deploy Date (Day/mo./yr.)	Metropolitan Area	Government Approved Destination	Name of Location and Address	Type	Last reported/Fate
AU646678	14/9/2017	Adelaide	No	Ecycle SA 12-14 Baulderstone Road, Gepps Cross, SA 5094	CRT	No movement
AU647262	14/9/2017	Adelaide	Yes (EPSA)	Adelaide Waste & Recycling 181 Morphett Rd, North Plympton, SA 5037	Desktop	No movement
AU886749	14/9/2017	Adelaide	Yes (Techcollect)	Glen Osmond waste transfer station- 389 Glen Osmond Road, Glen Osmond, SA 5064	Desktop	No movement
AU822742	19/9/2017	Sydney	Yes (Techcollect)	Randwick City Council - Matraville Recycling Centre 72 Perry Street Matraville, NSW 2036	CRT	Moved to Melbourne, likely to ToxFree e-Cycle
AU824607	19/9/2017	Sydney	Yes (eCycle Solutions) (Techcollect)	Brooks TV 1115 Botany Road, Mascot, NSW 2020	LCD	Never moved, but still active
AU823963	21/9/2017	Sydney	Yes (Techcollect)	Redcliffe Waste Transfer Station 261 Duffield Rd, Clontarf QLD 4019	LCD	Never signaled
AU705112	19/9/2017	Sydney	No	Summerhill Waste management 141 Minmi Road, Wallsend, NSW 2287	LCD	Moved to Sims Recycling Solutions, Villawood
AU820910	19/9/2017	Sydney	Yes (eCycle Solutions)	Domayne U1/1 Kullaiba Rd. Kotara, NSW 2289	LCD	Moved to Summerhill Landfill
AU481425	19/9/2017	Sydney	No	MAG Recycling Services 5-7 Nicholas Street Lidcombe, NSW 2141	Desktop	Moved to Sell and Parker Metal Recycling Services
AU705826	19/9/2017	Sydney	No	Sydney Transwaste Centre 160 Arthur St., Homebush West, NSW 2141	Desktop	Moved to Loyola Senior High School campus
AU053109	19/9/2017	Sydney	No	Soho Express Unit 6, 1545 Botany Road, Botany, NSW 2019	Desktop	Moved to Sell and Parker Metal Recycling Services
AU092825	19/9/2017	Sydney	Yes (Dropzone)	OfficeWorks 91 O'riordan St., Alexandria, NSW 2015	LCD	Never signaled

AU689134	19/9/2017	Sydney	Yes (eCycle Solutions)	Harvey Norman 75 Carnarvon Street, Silverwater, NSW 2128	Desktop	Never signaled
AU700816	19/9/2017	Sydney	No	Community Recycling Centre 29 Sefton Rd., Thornleigh, NSW 2120	Desktop	Never signaled
AU823575	19/9/2017	Sydney	Yes (EPSA)	Sims Metal Management (Gosford) 354 Manns RoadWest, Gosford, NSW 2250	LCD	No movement
AU844614	19/9/2017	Sydney	No	Cookes Metal Recycler Pty. Ltd. 82 Asquith St, Silverwater, NSW 2128	LCD	No movement, still active
AU703471	20/9/2017	Brisbane	Yes (EPSA)	Reedy Creek Community Waste Centre 61 Hutchinson St. Reedy Creek, QLD 4228	Desktop	Moved to Endeavor Foundation Industries, Rocklea
AU818278	19/9/2017	Brisbane	No	Fairhaven Services 209 Brisbane Water Drive, Point Clare, NSW 2250	LCD	Moved to Port Stevens Waste Processing Centre Landfill
AU165464	21/9/2017	Brisbane	Yes (Techcollect)	Endeavour Foundation Industries 46 High St. Kippa-Ring, QLD 4021	LCD	**Moved to Brisbane Container Port, likely exported, destination unknown**
AU819987	21/9/2017	Brisbane	No	Dakabin Waste Management Facility 336 Old Gympie Rd. Dakabin, QLD 4503	LCD	Went from public receiving station to landfill at Dakabin WMF.
AU827253	22/9/2017	Brisbane	Yes (Dropzone)	Ferny Grove Resource Recovery Center 101 Upper Kedron Rd. Ferny Grove, QLD 4055	LCD	Went to One Steel Recycling, Brisbane area
AU695016	21/9/2017	Brisbane	No	Bunya Resource Recovery Centre 384 Bunya Rd, Bunya QLD 4055	LCD	Went to Endeavor Foundation Industries at Kippa-Ring
AU138057	20/9/2017	Brisbane	Yes (Dropzone)	OfficeWorks 130-134 Gympie Rd., Strathpine, QLD 4500	LCD	**Exported to Hong Kong and then to Thailand**
AU827543	21/9/2017	Brisbane	Yes (Dropzone)	Chandler Resource Recovery Center	Desktop	Never signaled
AU821231	20/9/2017	Brisbane	Yes (Techcollect)	Nudgee Waste Transfer Station 1420 Nudgee Rd, Nudgee, QLD 4014	Printer	Moved to CDS Recycling in Pinkemba

AU819375	21/9/2017	Brisbane	No	Certified Destruction and Recycling Services Kingsford Smith Dr., Pinkenba QLD 4008	Desktop	Moved to New Chum Waste Disposal Facility Landfill
AU139436	21/9/2017	Brisbane	No	Buyequip Pty Ltd B8/194 Zillmere Road, Zillmere QLD 4034	Desktop	No movement
AU820050	20/9/2017	Brisbane	Yes (EPSA)	Sims Recycling Solutions 5 Hurricane Street, Banyo, QLD 4014	Desktop	Never signalled
AU825422	22/9/2017	Brisbane	No	Street drop Colchester and Ernest Streets, South Brisbane, QLD	LCD	Ended up on street in Hawthorne Village area, Brisbane
AU156281	21/9/2017	Brisbane	Yes (Drop zone)	OfficeWorks 746-763 Deception Bay Rd., Rothwell, QLD 4022	LCD	**Exported to Hong Kong, New Territories**
AU825646	17/10/2017	Perth	Yes (Dropzone)	OfficeWorks, Midland Corner Lloyd & Clayton St, Midland, WA, 6056	LCD	Moved to 31 Feldspar Rd. Welshpool. Appears to be a recycling facility.
AU823997	18/10/2017	Perth	Yes (Techcollect)	Cleanway Bayswater Transfer Station 271 Collier Rd, Bayswater WA 6053	LCD	Moved to Total Green Recycling, Perth
AU822783	18/10/2017	Perth	Yes (Dropzone)	OfficeWorks Morley 6/137 Russell St, Morley, WA 6062	LCD	Moved to Total Green Recycling, Perth
AU826966	18/10/2017	Perth	Yes (Dropzone)	OfficeWorks Morley 6/137 Russell St., Morley, WA 6062	LCD	Moved to Total Green Recycling, Perth
AU824177	8/10/2017	Perth	Yes (Techcollect)	Red Hill Waste Management Station 1094 Toodyay Rd, Red Hill WA 6056	LCD	Moved to Total Green Recycling, Perth
TOTALS		Adelaide (3) Sydney (13) Brisbane (14) Perth (5)	Techcollect (8), Dropzone (8), EPSA (4) eCycle Solutions (3) No (13)		LCD (21) Desk (12) Printer (1) CRT (2)	Exported (2, 5.7%), Moved to seaport (1, 2.86%) Moved to Recycler (11, 31.4%), Never moved (7, 20%), Moved to landfill (4, 11.4%) No signal (7, 20%) Moved to unknown location (2, 5.7%)

Exported Trackers

Officeworks, Rothwell

Certification:

Address: 746-763 Deception Bay Rd. Rothwell QLD 4022, Australia

Note: OfficeWorks at Deception Bay Rd. is listed as a consumer drop location on the government managed consumer website as a Dropzone location.

Legality: *Likely Illegal.*

Australia and China are both Parties to the Basel Convention. Hong Kong, as a Special Administrative Region (SAR) of China, does have one deviation from the norm of Basel Convention definitions, apart from Mainland China, but that has to do with electronic equipment that contains circuit boards, but not CRTs or mercury lamps. Australia and Hong Kong as a region of China both consider devices containing mercury to be controlled under the Basel Convention as Basel Convention defined hazardous wastes. Any confusion about them being considered waste or not was eliminated due to the fact that BAN made the devices non-functional and economically unrepairable by removing parts and damaging others inside of the LCD unit. Under Basel Convention rules then, OfficeWorks or any of their downstream vendors or brokers was forbidden from exporting this LCD device to another Basel Party without notification and consent. Moreover Basel Parties are required to honor the importation bans in place by other Basel Parties. Hong Kong and China have announced their importation ban to the Basel Convention Secretariat and this has been known for many years. This export is then likely to be illegal and in accordance with the Basel Convention, a criminal act.

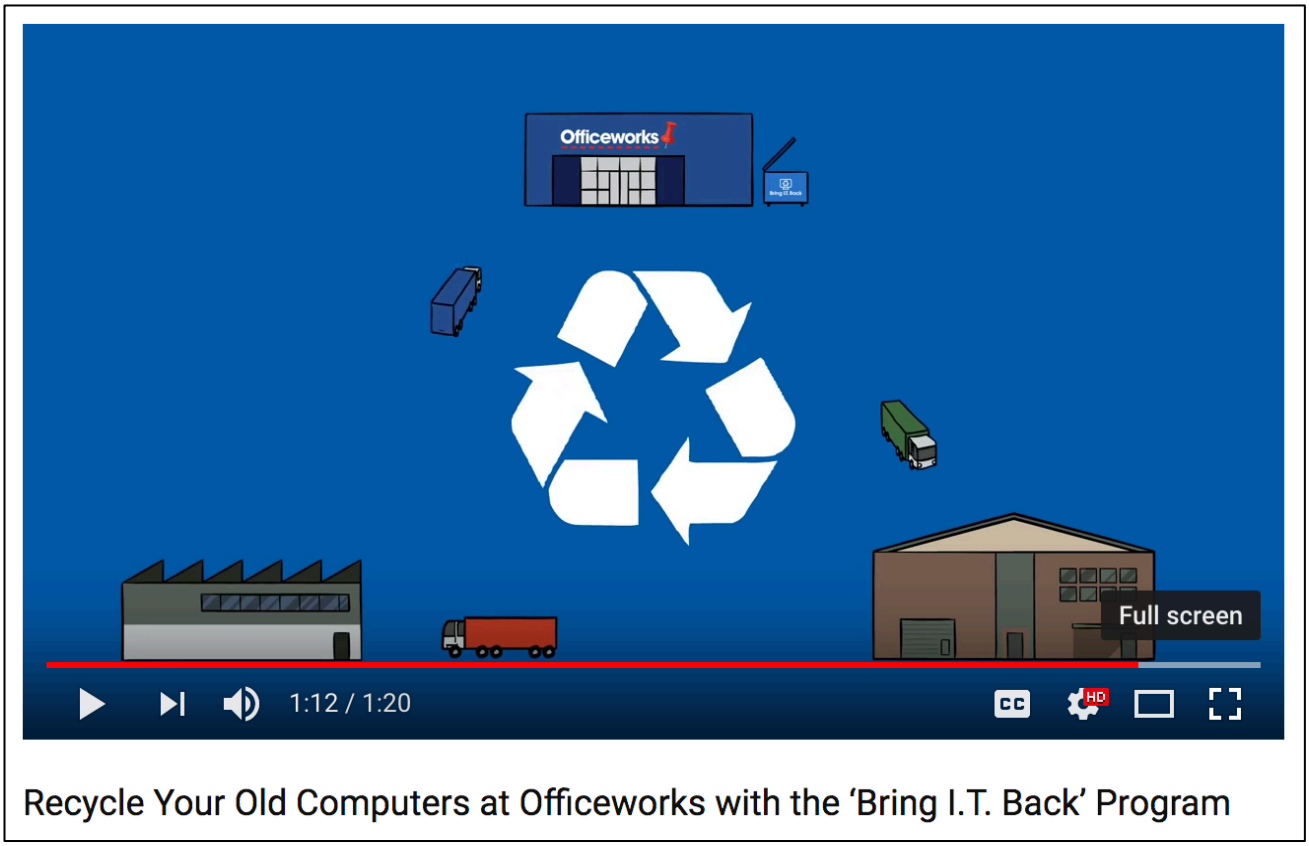
Site Visits: Both of the listed exports first went to one of the many fenced lots in New Territories (see Google earth views above and below). It was clear when we arrived and flew a drone over the site that the facility had been cleaned out some 5 months later. It is not uncommon with respect to the New Territories junkyards for proprietors to move in and out of sites with rapidity and this is particularly true now, as the government is getting far more vigilant and active in inspecting and enforcing the e-waste import ban for LCDs, batteries and CRTs imports entering Hong Kong.

Tracker Data:

Tracker Number	Type of E-Waste	Date of Deployment	Date of Arrival	Metropolitan Region/State	Country Destination	Chain of Export Summary
AU156281	LCD	Sept. 21, 2017	Feb 28, 2018 -- Mar 1, 2018	Brisbane/QLD	Hong Kong	Officeworks, Deception Bay Rd., Brisbane Ng Chau S Rd, New Territories, HK 22.525293, 114.167950



Google Earth satellite view of location where container delivered the Officeworks LCDs. BAN visited this site at the end of July 2018 and was unable to find a trace of e-waste at this facility.



Video available online at: https://www.youtube.com/watch?v=ccInbrs9aIs which explains the Officeworks environmentally benign "Bring I.I. Back" program.

Officeworks, Strathpine

Address: Gympie Rd. Brisbane, Australia

Note: Officeworks at 130-134 Gympie Rd., Strathpine, QLD 4500 is listed as a consumer drop location on the government managed consumer website as a Dropzone location.

Legality: *Likely Illegal.*

Australia and China are both Parties to the Basel Convention. Hong Kong, as a Special Administrative Region (SAR) of China, does have one deviation from the norm of Basel Convention definitions, apart from Mainland China, but that has to do with electronic equipment that contains circuit boards, but not CRTs or mercury lamps. Australia and Hong Kong as a region of China both consider devices containing mercury to be controlled under the Basel Convention as Basel Convention defined hazardous wastes. Any confusion about them being considered waste or not was eliminated due to the fact that BAN made the devices non-functional and economically unrepairable by removing parts and damaging others inside of the LCD unit. Under Basel Convention rules then, Officeworks or any of their downstream vendors or brokers was forbidden from exporting this LCD device to another Basel Party without notification and consent. Moreover Basel Parties are required to honor the importation bans in place by other Basel Parties. Hong Kong and China have announced their importation ban to the Basel Convention Secretariat and this has been known for many years. This export from Australia to China is then likely to be illegal and in accordance with the Basel Convention, a criminal act.

With respect to the re-export from Hong Kong to Thailand countries that likewise are Parties to the Basel Convention we have further likely illegality. As the container was offloaded from the ship and moved to New Territories Hong Kong before being re-exported to Thailand, this would be seen as the responsibility of Hong Kong and Thailand and not Australia. It is very likely in this case that Hong Kong was not notified by the exporter and so did not send an official notification to the Thai government as required under the Basel Convention.

It is clear already from past cases that numerous operators in Hong Kong are now, guilty of illegal exports -- that is, without the prior notification and consent as required by the Basel Convention.

Site Visits: Both of the listed exports first went to one of the many fenced lots in New Territories (see Google earth views above and below). It was clear when we arrived and flew a drone over the site that the facility had been cleaned out some 5 months later. It is not uncommon with respect to the New Territories junkyards for proprietors to move in and out of sites with rapidity and this is particularly true now, as the government is getting far more vigilant and active in inspecting and enforcing the e-waste import ban for LCDs, batteries and CRTs imports entering Hong Kong.

Our team next flew to Bangkok to learn more about what we could see on Google Earth. We could see from the satellite and street view that the facility was tucked into a rural area with castor bean, rice, mangos and other crops growing. We could see that our device was placed in one of the sheds in the back. The site clearly was involved in smelting and two large smokestacks could be identified as well as the dark gray shades of soil indicating ash piles. But we needed to learn far more.

Just a few weeks previously, Thailand had been rocked with the news that massive amounts of illegal imports of e-waste had been flowing into the country. The government raided about a dozen facilities, most run by Chinese businessmen, and shut them down. Then the government announced an e-waste import prohibition. We were arriving just a few weeks later and we were wondering if the facility was one that had been raided or had the government failed to find this one?

We drove up to the site and immediately noticed the gate was opened. Entering we told those present via our interpreter, speaking Thai, that we were there to buy electronics. They expressed great surprise that we had found them and stated that there were no electronics inside we perhaps had the wrong location, if we could give them the business name of the place we were looking for, they would help us find it.



Our team at the front gate of the Thai e-waste smelting operation. Copyright BAN, July 2018.

Google Earth satellite view of location where LCD went in Thailand. BAN visited this site at the end of July 2018 and was able to enter the site and assess the type of operations that took place here (see notes above). Copyright 2018.





Our team asking the staff if we could buy electronic parts just inside the factory. Copyright BAN, July 2018.

Because of their denial of having any electronics to sell, we left the facility and found a nearby road to fly the drone over the site. Very quickly we could observe over one hundred super sacks filled with electronics, a sludge pond cut into the property, as well as ash and slag piles.

Upon hearing and seeing the drone, the staff came out again and asked us what we were doing? We responded by saying we were flying a drone over the site to see if there are electronics inside. They said, "you don't need to do that, we will show you inside." So we brought the camera down and entered the site. Inside we saw a very cleaned up and well swept facility with not a lot in site from the front gate and a clean tarmac as we walked towards the back. On the ground, after we passed the smelter there were numerous piles of residues and ash.

Vast quantities of super sacks were observed as we toured the depths of the facility, its yards and warehouses. Many of them were covered by tarps, as were bags and bags of ashes from the smelting operation, which was currently not operating.

Inside we discovered that it was very likely that at least two different types of operations were taking place. First, the CPUs (central processing units) were being sawed out of the motherboards. These likely were reserved for gold extraction using aqua-regia solutions (hydro-chloric and nitric acid mixture). We could see the bags full of circuit boards with the gold concentrated CPUs removed, and we observed the stainless steel tanks for dipping the chips into the aqua-regia solution. The lower grade circuit boards and the boards with CPUs removed would then be smelted for the copper and lead. This latter process created vast amounts of ashes and slags that had been tidied into super sacks. However, large slag piles could not be sacked and remained on site.

There was a large cut pond on the site cutting below the water table (about two meters down) where it was likely that slags would be quenched and residue acid solutions dumped. With this type of process persisting, groundwater contamination was inevitable. Likewise, the smoke stacks, when operational would be belching out toxic smoke. The contents of which would be a gaseous soup of some of the world's most carcinogenic and toxic substances -- lead, cadmium, polycyclic aromatic hydrocarbons, dioxins, and furans.



Launching the drone to see the site over the fences after being told there was no electronic waste inside. Copyright BAN, July 2018.



The drone camera on its way. Copyright BAN, July 2018.

The story seemed to change numerous times throughout our visit as to what was truly happening at this facility. We were now told that the government had raided their facility and they were waiting on a permit to start business again. They claimed they had plans of changing their business model to collect copper from waste; however, they stressed that this business would not include electronics.

As we walked deeper into the facility and they grew weary of our visit, it became clear to us that it was not likely that the site had been raided yet. But, as a result of the highly publicized raids, the company had ceased operations, covered up as much evidence of electronics and smelting as they could, and were laying low hoping to avoid discovery. They were not counting on a couple of North Americans showing up at their facility out of the blue. They are probably still wondering about the origin of BAN's "raid". Their story changed once again and we were told that they stopped the work they were doing because their neighbors complained of the smell and noise.

Our team continued with the story of being from Australia and we had asked our interpreter to find out whether or not they so business with another Australian group-- we were told yes. As another man on site became weary of our intentions, we left before our stay became completely unwelcomed. As we were walking down the long, ash covered tarmac towards the front gate, one of the workers started to take photos of us. When we asked why he was doing that, he explained that he had been on the phone with the owner and they were trying to confirm if we were the Australians they were already doin business with.

Tracker Data:

Tracker Number	Type of E-Waste	Date of Deployment	Date of Arrival	Metropolitan Area/State	Country Destination	Chain of Export Summary
AU138057	LCD	Sept. 21, 2017		Brisbane, QLD		Officeworks, Gympie Rd. Brisbane
			March 1, 2018– March 27, 2018		Hong Kong	New Territories, HK 22.525182, 114.167356
			March 27 2018 – April 3, 2018		Thailand	Port, Laem Chabang, 13.069840, 100.889648
			April 3, 2018 -- May 6, 2018			Tambon Khao Khan Song, 13.875261, 101.593225



Installation video of tracker in the LCD. See tracker in plastic wrap in upper part of board. Copyright BAN, September 2017.



Dell LCD notation of Serial number, as delivered to Officeworks by BAN, 21 September 2017.



Officeworks facade at Strathpine from Delivery video. Copyright BAN, 2017.



Google Earth satellite view of location where container delivered the LCD. BAN visited this site at the end of July 2018 and was unable to find a trace of e-waste at this facility.

View from on high. Castor beans and mango orchard seen as well as cleanly swept front of the plant. Copyright BAN, July 2018.





View of sludge pond, bagged ash, and other materials dumped on open ground. Copyright BAN, July 2018.

View of bagged ash, and chemical waste storage. Copyright BAN, July 2018.





View of slag piles, sludge pond outfall, smelter stack with castor bean and rice crops in distance. Copyright BAN, July 2018.

Drone view of aqua regia plant showing stainless steel acid tanks and sludge pond at groundwater level. Copyright BAN, July 2018.





Close-up of circuit boards showing CPUs and gold-bearing chips cut out for aqua-regia processing. These remaining boards will be smelted for copper content. Copyright BAN, July 2018.



Close-up of super sacks containing ash from the smelting process. It is unknown what is expected to be done with this material but it's likely it is part of a plant cleanup effort to look clean if the government raids the site. Copyright BAN, July 2018.



Smelter site showing in lower left copper ingot molds. Copyright BAN, July 2018.



Barrels and sacked residues on site. Copyright BAN, July 2018.



More examples of poor housekeeping on open ground near sludge pond. Copyright BAN, July 2018.



Super sacks containing chemical residues and ash. Copyright BAN, July 2018.



Stainless steel acid tanks and racks for aqua-regia processing of gold-bearing chips. Copyright BAN, July 2018.

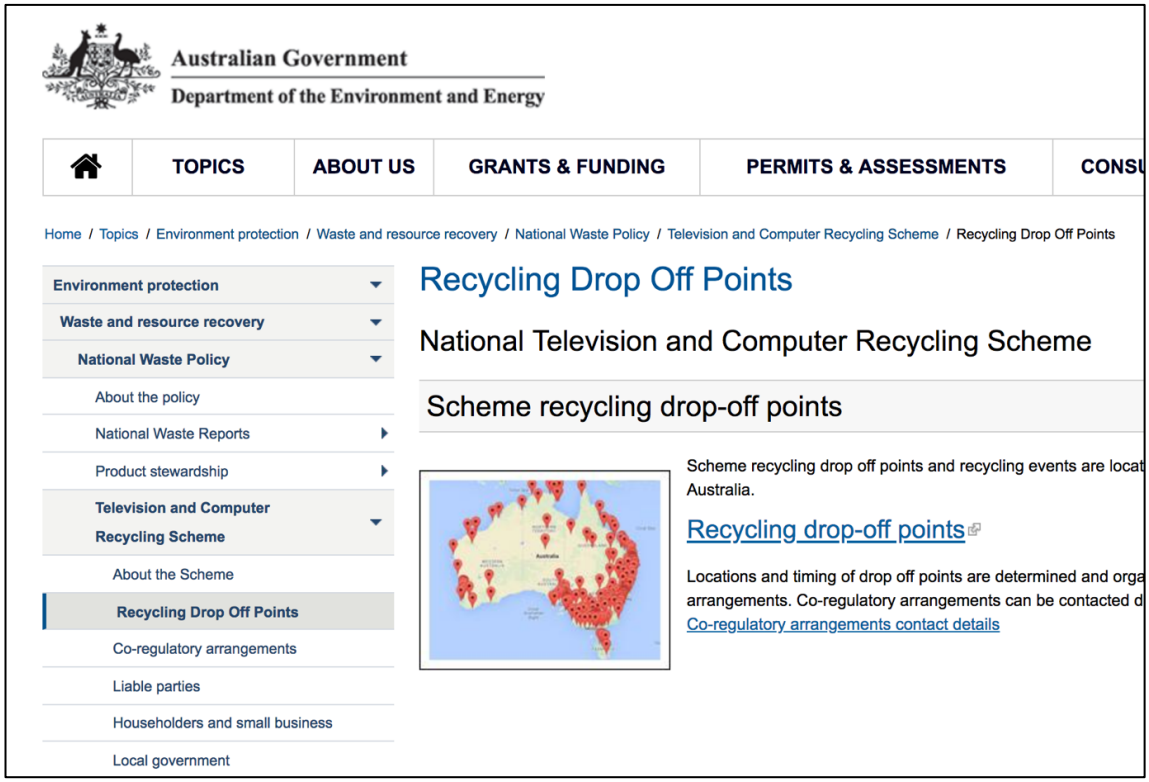


Multiple super sacks of circuit boards awaiting processing. Copyright BAN, July 2018.

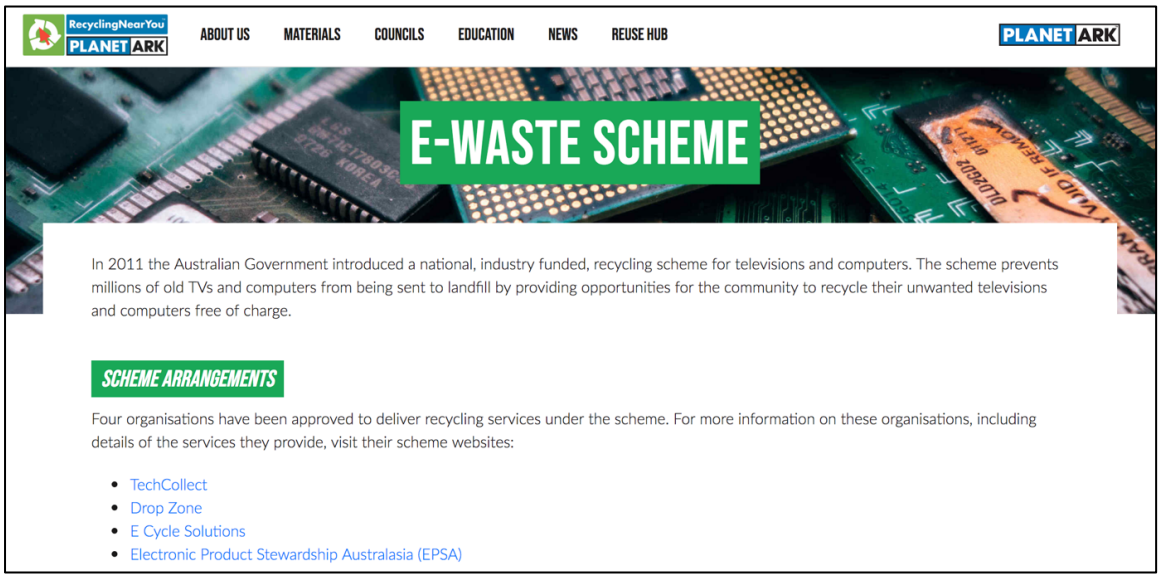
Legal Issues

Australia

As can be seen from the website below, the Australian Government directs consumers to use the linked site to find e-waste recycling drop-off locations.

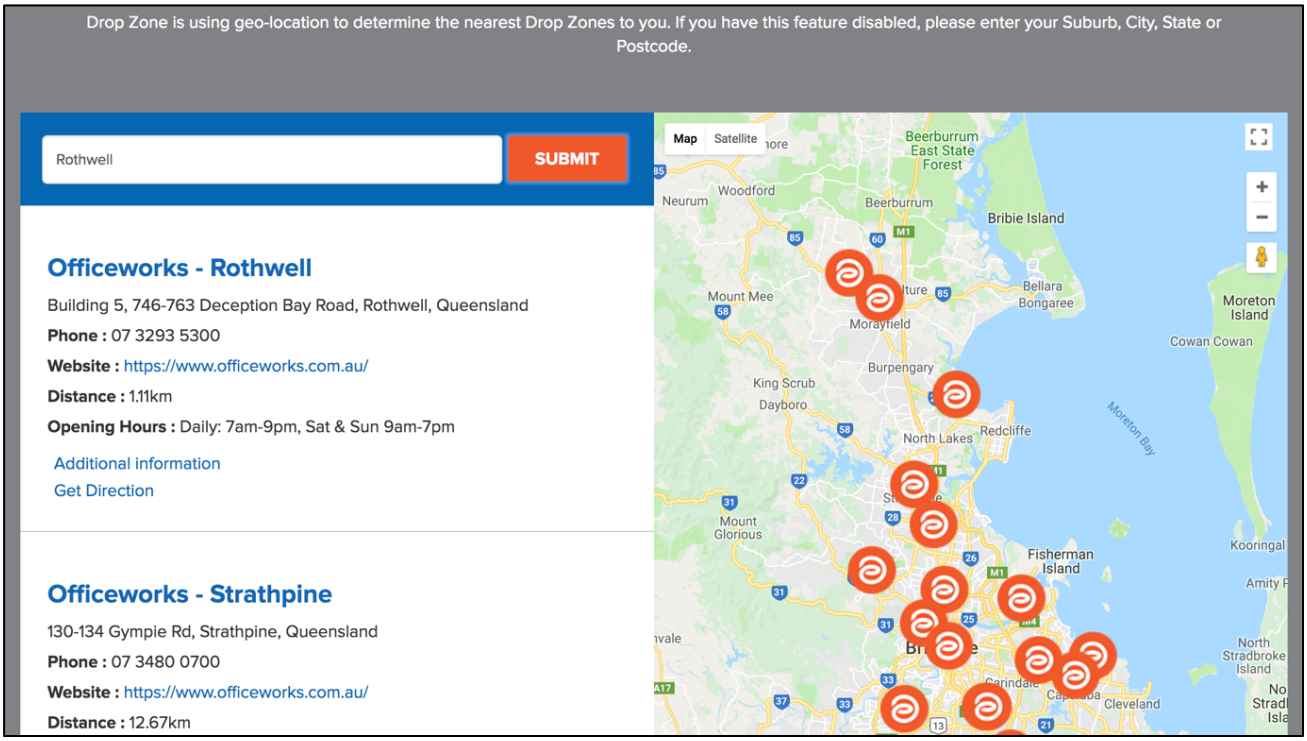


Clicking on the link leads one here:



It was from these four program lists above that we drew most of our deployments from. Including the Drop Zone.





Above as listed on the Drop Zone government approved program site one can see the two Officeworks locations where we deployed the LCDs that were exported.

It is very likely that these exports from Officeworks were illegal due to Australia's Basel Convention obligations. And it is likely that the Australian government has not conducted enforcement actions and monitoring on their numerous drop-locations to determine whether their activities are compliant with Australia's obligations under the Basel Convention.

Under the Basel Convention, Australia as a Party cannot export listed hazardous wastes including listed electronic wastes to another Party such as China (Hong Kong) without having a state-to-state communication between exporting, transit, and importing countries. Further, Australia must not even attempt such exports if the importing country (Mainland China or Hong Kong in this case) has notified the Basel Convention Secretariat that they have prohibited the importation of such waste. China has made such notification many years ago and has recently updated these notifications. There can be no excuse therefore for exports of hazardous wastes to China from Australia.

There can also be no question that the LCDs deployed by BAN at the Officeworks locations were considered hazardous under the Convention. The LCDs used all had mercury phosphor back lights which present a serious problem if dismantled incorrectly are broken in the process releasing mercury. This waste is listed as A1180 on Annex VIII of the Convention.

> *A1180: Waste electrical and electronic assemblies or scrap containing components such as accumulators and other batteries included on list A, mercury-switches, glass from cathode-ray tubes and other activated glass and PCB-capacitors, or contaminated with Annex I constituents (e.g. cadmium, mercury, lead, polychlorinated biphenyl) to an extent that they possess any of the hazardous characteristics contained in Annex III (note the related entry on B B1110).*

On Annex III, this waste can be considered poisonous (H6.1), toxic (H11) and ecotoxic (H12).

Any question of whether the material was a waste is resolved by virtue of the fact that the equipment was destroyed internally by BAN prior to deployment to render it both non-functional and non economically repairable.

Australia has long been opposed to ratifying the Basel Ban Amendment which all of Europe has ratified and lacks but three more countries before entering into the force of international law. The BAN Amendment will make it illegal to export hazardous wastes of all kinds from OECD or EU countries to all other countries. The Ban Amendment, once in force would be the first environmental justice instrument of international law. Australia and other countries have been called upon by the Parties of the Basel Convention to adopt it at the earliest possible date.

Hong Kong

In e-mail to BAN dated March 9, 2016, Patrick Ho of the Territorial Control Office of the Environmental Protection Department wrote us the following:

"In Hong Kong, import and export of waste are subject to control under the Waste Disposal Ordinance (WDO) which is modeled on the Basel Convention. Under the control, import or export of any waste requires a permit issued by the Environmental Protection Department (EPD) unless the waste is:

i. Listed in the Sixth Schedule of the WDO,
ii. Uncontaminated as de ned under the WDO and
iii. Imported for a genuine recycling or reuse purpose.

A WDO control scheme guide including a full list of the schedules are available in our website:

http://www.epd.gov.hk/epd/sites/default/les/epd/english/environmentinhk/waste/guide_ref/ les/2015_ie_english.pdf

The EPD has adopted the Basel Ban of the Basel Convention in the WDO, under which import of any hazardous waste from developed countries which are members of OECD, EC and Liechtenstein is not permitted. The banned countries (including the United States) are listed in the Ninth Schedule of the WDO. . Accordingly, import of waste electrical or electronic equipment (WEEE) containing hazard constituents or components are not permitted. . Common types of such controlled waste embrace computer monitors, laptops, tablet computers and televisions with various displays technologies such as cathode ray tubes (CRT), liquid crystal displays (LCD), light emitting diodes (LED) and plasma displays, accumulators, batteries, mercury-switches, transformers and capacitors containing mineral oil or polychlorinated biphenyl. Any article or substance once given up by its original user is considered as waste under the WDO, irrespective whether it is still workable or can be sold for a value."

As China, including Hong Kong has banned the import of this waste, and Hong Kong has made this abundantly clear as explained in the letter above, the export of the Officeworks LCDs to Hong Kong is likely to be illegal.

Recommendations

1. The Australian Government should monitor and better enforce its sanctioned drop-off locations. Using GPS trackers as we have done is one very good way to do this. Use of solid waste landfills and export of hazardous e-waste should be forbidden.

2. Officeworks should be investigated and prosecuted for any Basel Convention violations that occurred.

3. The Australian Government should educate all of its collection points and recyclers about which e-waste is considered hazardous waste under the Basel Convention.

4. Thailand and Hong Kong and indeed all countries in Asia should prohibit the import of hazardous wastes including e-wastes for any reason.

5. Australia and Thailand should both follow China and all European Countries and Ratify Basel Ban Amendment at the earliest opportunity.

6. Recyclers in Australia should become certified to the e-Stewards Standard to assure their customers that they will not violate their data security nor the Basel Convention.

7. Corporations and governments generating large amounts of electronic waste are encouraged to use GPS tracking to ensure downstream vendors abide by international law. See www.EarthEye.org.

8. All countries in South Asia and South East Asia should adopt the same import criteria for scrap as has been adopted in China's National Sword policy to create a level playing field and avoid becoming the target for unscrupulous waste traders and dirty industry migration.



