The Responsible Guideline on Transboundary Movements of Used Electronic Equipment to Promote an Ethical Circular Economy under the Basel Convention

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Foreword

The original Basel Convention's Technical guidelines on transboundary movements of electrical and electronic waste and used electrical and electronic equipment, in particular regarding the distinction between waste and non-waste under the Basel Convention,[1] were adopted by the Parties to the Basel Convention at COP12 on an interim basis. They could not be finally adopted because they were incomplete and there was no agreement on critical issues surrounding the transboundary movement of used electronics, especially those destined for repair and refurbishment. The unfinished guideline never should have been approved at that meeting, even on an interim basis, as it was clear that several Parties voiced their strong disagreement with the document. Decisions of the Basel Convention must be made either by consensus or by a vote. In this case, there was neither consensus nor a vote.

The reason for the disagreement over policies was due to the fact that, late in the Basel discussions regarding how to manage used electronics and electronic waste under the Convention, certain electronics manufacturers represented by Digital Europe and the Information Technology Industry Council (ITI) decided that they did not concur with the conclusions reached earlier in the Basel partnership programs – the Mobile Phone Partnership Initiative (MPPI) and the Partnership for Action on Computing Equipment (PACE). Those programs concluded that functionality would be the crucial determinant of what would be considered an e-waste under the Convention or a non-waste for used electronic equipment destined for reuse, and this conclusion was reflected in the earlier PACE and MPPI Guidelines adopted by the Parties.

These earlier guidelines concluded correctly that export for repair most often involved transboundary movement of wastes in the form of unrepairable used electronic equipment and parts that would need to be replaced during the repair process and then recycled or finally disposed of in the recipient country. The Parties, particularly those from developing countries, also knew that functionality was a hard line that could be enforced and would ensure that, at the very least, developing countries would be receiving working electronic equipment or else be able to rely on the control procedures of the Basel Convention -- giving Parties transparency and the right to refuse imports should they need to protect their territory and population from waste traders. Thus, it was concluded in the PACE and MPPI partnerships that the proper and precautionary interpretation of the Basel Convention obligations and definitions was that unless the used electronic equipment was tested and determined to be fully functional, it should be considered a waste.

[1] UNEP/CHW.12/5/Add.1/Rev.1, 23 June 2015

However, once a working group was mandated and tasked with crafting a new overarching e-waste technical guideline for the Convention, we were suddenly faced with new argumentation from major hardware manufacturers such as Hewlett Packard, Dell, Apple, Cisco, and others, which had previously agreed with the earlier policy. The manufacturers now argued that, despite the fact that the earlier policy might protect developing countries from being harmed, they felt they could not easily move (broken) used electronic equipment across the globe for repair, which they had been doing for some time. Rather than adjust their business practices for transboundary movements of broken or untested used electronic equipment, or accelerate the elimination of hazardous materials in their new products, they engaged in an aggressive lobby campaign to reverse the earlier policy and began working to remove even hazardous, non-functional used electronic equipment from the scope of the Basel Convention.

Surprisingly, the EU also did a full reversal on the earlier view and took a position in support of the manufacturers. In the working group, Germany, Belgium, and the European Commission began forcefully arguing for a deregulation of hazardous broken electronic equipment going for repair anywhere in the world, even as it contradicted EU law.

This new position meant that exports of hazardous waste (e.g. non-working equipment with bad batteries, bad mercury lamps, bad circuit boards) would be considered non-waste and therefore completely fall outside all Basel controls. Even as we were suggesting some flexibility, e.g. for large medical equipment the industry push made export of e-waste as non-waste the rule rather than the exception, thus undermining the fundaments of the Basel Convention by removing the policy of notification to importing countries and the requirement of their consent. It also meant no Basel requirements for environmentally sound management. And, while moving electronic equipment claimed to be for repair from the Convention itself, very little alternative safety nets were proposed to ensure Parties of having adequate knowledge and control over the shipments.

The Basel Action Network (BAN) and many Parties commented that this would turn the effort to stem the tide of toxic e-waste dumping to date on its head. Much of this dumping occurs because any electronic equipment that remains assembled can be declared as 'repairable,' and thus the electronics manufacturers' proposed exemptions would result in their industry's waste being deregulated from international controls established under the Basel Convention -- controls created primarily to protect developing countries and foster upstream toxic-free design. Creating a loophole for manufacturers to engage in a free trade in broken equipment 'for repair' would then open the same massive loophole for all traders in broken equipment, claiming their exports are for 'repair'. Importing countries would not even be asked if they wanted to allow this waste stream to come into their countries – the most traded hazardous waste today.

Nevertheless, the manufacturers could not be dissuaded and proceeded to lobby governments. It was shocking that they managed to convince the European Union to do their bidding because the EU heretofore was one of the champions of protecting the developing world from the international waste trade. In fact, the EU had already included the functionality requirement in their Directive on Waste Electrical and Electronic Equipment (WEEE Directive).[2] The African Bamako Convention likewise adopted a decision at its first conference of Parties that concluded that non-functional electronic equipment should be considered waste and, if hazardous, forbidden from entering the continent of Africa.[3]

Despite their own laws and the wide acceptance of the functionality dividing line as global waste policy, the EU (led by Germany, Belgium and the European Commission) proceeded to overturn key provisions of the older guidance documents of MPPI and PACE and create the exemptions via Article 31(b) in the interim Transboundary Movement Guideline for e-waste. Due to 31(b), that unfinished guideline remains fatally corrupted and dangerous today.

[2] The WEEE directive's Annex VI, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32012L0019&from=EN
[3] Bamako Convention Decision 1/15, https://www.informea.org/en/decision/prevention-hazardous-e-waste-and-near-end-life-importation-and-dumping-africa

Basel Convention guidelines are never supposed to change the Convention itself, nor its definitions of waste. The industry, however, led efforts to do just that. The official Basel interim e-waste guideline now creates a new viewpoint of what is waste and what is not, and reverses the clear intent of the Basel Convention to protect the territories and populations of developing countries from harm from hazardous wastes. It ignores the fact that repair operations inherently involve discarding the unrepairable components, many of them hazardous, sending them downstream to disposal or recycling operations which can leave long-lasting toxic impacts in the importing countries.

BAN, having seen these developments as being extremely dangerous for the intent and purpose of the Convention, has in the last years attempted to create a compromise with industry which would allow their existing repair operations to be conditionally maintained, but limit the scope of the exceptions to prevent throwing open the e-waste floodgates. We called for a regime that would make 'export for repair' as non-waste a carefully prescribed exception and not the rule. We proposed the necessary transparency in such cases so that developing countries can know what is coming to their countries and maintain the right of refusal or consent -- one of the pillars of the Basel Convention. We offered numerous solutions so that manufacturers could continue to use their existing repair facilities while the environment and sovereignty of developing countries would also be protected.

Sadly, however, over the course of the negotiations it became clear that the EU and manufacturers were not interested in ensuring an approach that first and foremost protects developing countries. It seemed they were intent on creating a massive loophole for their industry's broken products, and one that could be exploited by many unscrupulous traders. The 31(b) loophole ignores key principles and obligations of the Basel Convention and Basel Ban Amendment. Most outrageously, they have even invoked the concept of the "circular economy" to justify liberalizing trade in what would normally be considered as toxic waste. This is ironic and unfortunate because one of the fundaments of the "circular economy" is the elimination of negative externalities. One can conclude from the current electronics industry satisfaction with the new loophole that they do not seem to really be interested in ceasing their product's role in poisoning the global south as much as they are in doing business as usual.

For this reason, BAN, representing civil society and the needs of developing countries, has seen the necessity to create an *alternative* guidance document -- one that creates a responsible compromise for industry while protecting developing countries.

The present Responsible Guideline borrows at times from the text of the previous one, but crucially restores the important concept that non-functional used electronic equipment is, as a default policy, a waste subject to the obligations of the Basel Convention. To honour legitimate high-end repair operations and failure analysis for critical used electronic equipment like medical equipment, or manufacturer repair operations, for those countries that agree to allow them, we have created a set of carefully-crafted exceptions to the rule. We have created two exempt categories of non-functional electronic equipment which can move as non-waste under specific conditions, including full transparency and a requirement for countries to formally opt-in. It is only this – the Responsible Guideline, unlike the "official" interim one – that ensures that applicable Basel and Ban Amendment principles of control will apply to all non-functional used electronic equipment.

A guideline is simply that. Anybody can create one and decide to follow it or not. It is our hope that BAN's proposed "Responsible Guideline," based on a plain reading of the Convention and longstanding interpretation by Parties, makes so much more sense that it will become the dominant policy coming to the aid of both industry and the environment, particularly in developing countries. We urge Parties and others to make use of this good faith guideline and establish their national policies and practices around it.

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I. Introduction

A. Scope

1. The present guideline provides guidance on transboundary movements of used electrical and electronic equipment (referred to as electronic equipment) and a subset of that subject -- *waste* electrical and electronic equipment, or WEEE (hereafter referred to as "e-waste," as defined in the glossary). This guideline, like its predecessor, focuses intently on the distinction between waste and non-waste used electronic equipment. This guidance is based on the legal requirements and principles currently found in the Basel Convention as well as the Basel Ban Amendment (Decision III/1)[4] and draws from the wealth of real-world experience in dealing with an ongoing global e-waste dumping crisis the world has experienced in the last two decades. This guidance document implements the longstanding Basel principle that a guidance document should not re-define established definitions of the Convention nor alter its purpose or obligations without the consent of the Parties.

2. The present guideline addresses both e-waste and used electronic equipment, including providing guidance related to the transboundary movement of specific kinds of used electronic equipment destined for reuse, repair, refurbishment, and failure analysis.

3. For the purpose of this guideline, the term "electronic equipment" also covers components.[5] Management of residual materials that have been removed or that derive from the dismantling or recycling of e-waste and are waste -- such as metals, plastics, PVC-coated cables, or activated glass -- is not directly addressed in the present guideline, regardless of whether or not they fall under the provisions of the Convention, other than special considerations on how to manage hazardous residual materials resulting from repair, refurbishment, and failure analysis operations.

4. The present guideline provides:

   (a) Information on the relevant provisions of the Convention applicable to transboundary movements of e-waste;

   (b) Guidance on the distinction between waste and non-waste when used electronic equipment is moved across borders;

   (c) Guidance on the distinction between hazardous waste and non-hazardous waste when used electronic equipment is moved across borders; and

   (d) General guidance on transboundary movements of hazardous e-waste and used electronic equipment and enforcement of the control provisions of the Convention.

5. The present guideline is intended for government agencies, including enforcement agencies, that wish to write, implement, control, and enforce legislation and provide training regarding transboundary movements. It is also intended to inform all actors involved in the management of e-waste and used electronic equipment so they can correctly apply the Basel Convention and the Basel Ban Amendment, and take into account other considerations when preparing, arranging for, or receiving transboundary movements of such items.

6. Its application should help reduce transboundary movements of e-waste in the scope of the Convention to a minimum, consistent with Convention obligations -- in particular to developing countries -- and with the environmentally sound and efficient management of such waste. It should reduce the environmental burden of e-waste that currently may be exported to countries and facilities with resulting negative externalities (unaccounted for environmental impacts and costs). It should also ensure that countries generating wastes become self-sufficient in their management, as called for in the Convention.

[4] The Ban Amendment is expected to enter into force shortly, lacking only two more ratifications from those present and voting at COP3. In the meantime, the Vienna Convention on the Law of Treaties (Article 18) calls for Parties to do nothing that would defeat the object and purpose of the Amendment prior to its entry into force. This Responsible Guideline assists Parties in accomplishing that.

[5] For definitions and explanations of the terms used in the present guidelines, see Appendix I (glossary of terms).

7. The present guideline does not address other aspects of environmentally sound management (ESM) of e-wastes, such as collection, treatment, or disposal. These aspects may be covered in other guidance documents, including a series of guidelines developed in the context of the following two public-private partnership initiatives under the Basel Convention (See decisions BC-10/20, BC-10/21 and BC-11/15 by the Conference of the Parties regarding these initiatives):

(a) Mobile Phone Partnership Initiative (MPPI):

(i) Revised guidance document on the environmentally sound management of used and end-of-life mobile phones (UNEP/CHW.10/INF/27/Rev.1);

(ii) Guideline on awareness raising-design considerations (MPPI, 2009a);

(iii) Guideline on the collection of used mobile phones (MPPI, 2009b);

(iv) Guideline on the refurbishment of use mobile phones (MPPI, 2009d); and

(v) Guideline on material recovery and recycling of end-of-life phones (MPPI, 2009e).

(b) Partnership for Action on Computing Equipment (PACE):

(i) Guidance document on the environmentally sound management of used and end-of-life computing equipment (UNEP/CHW.11/6/Add.1/Rev.1) (See Sections 1, 2, 4 and 5);

(ii) Environmentally sound management criteria recommendations (PACE, 2009);

(iii) Guideline on environmentally sound testing, refurbishment and repair of used computing equipment (PACE, 2011a); and

(iv) Guideline on environmentally sound material recovery and recycling of end-of-life computing equipment (PACE, 2011b).

B. About e-waste and e-waste trade

8. The volume of e-waste being generated is growing rapidly due to the widespread use of electrical and electronic equipment in both developed and developing countries. The total amount of global e-waste generated in 2005 was estimated to be 40 million tonnes (StEP, 2009). The latest estimates indicate that in 2012, 48.9 million tonnes of e-waste were generated globally (Huisman, 2012). The latest estimation of the total e-waste generation in Europe in 2016 was 12.3 million tonnes (Global E-waste Monitor 2017).

9. Accurate data on volumes of e-waste traded is particularly difficult to determine due to the fact that the Harmonized Commodity Description and Coding System (HS) does not possess adequate codes to distinguish waste from new or used working electronics. Further, it is believed that many traders misrepresent electronic waste in bills of lading with codes that mask what is actually being shipped to avoid scrutiny and possible prosecution. Nevertheless, recent studies that avoid using paper records but instead are based on real waste, traded in real time, including people-in-port techniques (PiP) and GPS tracking devices placed into used electronics, have provided a more anecdotal, but very real picture of significant and often dangerous trade. This actual trade often involves countries where such trade is illegal -- for example, in the EU where exports to developing countries of hazardous waste of all kinds are illegal due to its early implementation of the Basel Ban Amendment. The e-Trash Transparency Project, conducted by Basel Action Network (BAN) in the United States, Australia, Canada, and in Europe using GPS trackers and seeking to replicate consumer e-waste disposal norms, found that 40% of the tracked devices delivered to recycling facilities in the United States were exported -- mostly to China (BAN, 2016-2019).[6] A United Nations University (UNU) PiP study inspected thousands of vehicles and

[6] www.ban.org/trash-transparency

hundreds of intermodal containers. They identified around 46,200 tonnes of e-waste that was exported to Nigeria from Europe in one year (UNU, 2018).[7]

10. In very recent years and months, with the decisions by China (Green Fence and National Sword policies) and Hong Kong to increase their enforcement to prevent smuggling and mismanagement of electronic waste -- including computer plastics -- in their territories, much of the volume formerly exported to China was redirected to Southeast Asia. As a result, Thailand was forced to prohibit the importation of electronic waste. Global concern remains high that the volumes formerly received by China may be redirected to new countries.

11. Currently, e-waste is exported to weaker economies for disposal or recycling to avoid the costs of managing such waste safely in the countries where the electronics were used and reached their end-of-life or near-end-of-life. Correlated with weaker economies are a relative lack of adequate infrastructure and societal safety nets to prevent harm to human health and the environment from high-tech wastes, which raises the cost of waste management. The export to these weaker economies results in negative externalities in the form of harm to the local populations and environment. Recycling conducted by an unregulated, informal sector without protections has become all too common and has been the subject of numerous reports, starting in 2002 with the publication and film entitled "Exporting Harm: The High-Tech Trashing of Asia" (BAN, 2002). Similarly, the export of hazardous non-working used equipment in the name of 'reuse and repair' can result in similar harm and violations of the intent of the Basel Convention to restrict trade in hazardous waste and ensure national self-sufficiency in its environmentally sound management.

12. While there are examples of formal recycling or repair facilities in developing countries and economies in transition that are repairing, refurbishing, and recycling used electronic equipment and e-waste in an environmentally sound manner, the import of non-functional hazardous parts that need to be discarded during the repair process constitutes transboundary movement of hazardous waste. Further, practices and processes downstream of such facilities, particularly in developing countries, often lack sufficient and environmentally sound waste management. In such cases, including exports destined for repair, the right of Parties to know in advance what shipments may be coming into their territory, how they will be managed, and the right of refusal of such shipments is guaranteed under the terms of the Convention.

13. As a result of the EU Directive on Restrictions of the Use of Certain Hazardous Substances in electrical and electronic equipment (RoHS Directive)[8] and similar national legislation elsewhere, some hazardous substances in various kinds of electronic equipment have been reduced in recent years. However, many types of e-waste still contain hazardous substances, such as brominated flame retardants, lead, cadmium, mercury, POPs, PFAs, asbestos, and CFCs, that pose risks to human health and the environment when improperly disposed of or recycled, and that require specific attention to ensure environmentally sound waste management. In most developing countries and countries with economies in transition, the capacity to manage hazardous substances in e-waste is lacking. As an example, there is clear evidence that the informal recovery industry in Asia exploits women and child labourers who cook circuit boards, burn cables, and submerge electronic equipment in toxic acids to extract precious metals such as gold (Schmidt, 2006), and subjects them and their communities to damaged health and a degraded environment. Even management of non-hazardous wastes, such as the burning of computer plastics, can cause significant harm to human health and the environment if not undertaken in an environmentally sound manner. Many developed countries also lack the technologies to manage all forms of hazardous e-waste. For example, few recycling applications exist to properly handle brominated flame retardants found in plastics and in circuit boards and prevent these persistent compounds from entering the workplace or the environment.

14. In addition to environmental and occupational harm, the techniques used by the informal sector do not efficiently and effectively recover valuable resources, thereby squandering precious resources such

[7] https://collections.unu.edu/eserv/UNU:6349/PiP_Report.pdf

[8] Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment. OJ L 174, 1.7.2011, pp. 88-110.

as critical metals for future use. e-Waste often contains valuable materials that can be recovered for recycling, including iron, aluminium, copper, gold, silver, platinum, palladium, indium, gallium, and rare earth metals, and thereby can contribute to sustainable resource management and a circular economy since the extraction of these metals from the Earth has significant environmental impacts. The recovery and use of such materials after they have become waste can increase the efficiency of their use and lead to the conservation of energy and a reduction in greenhouse gas emissions when adequate technologies and methods are applied. However, material recovery operations themselves, even in formal sector facilities, can often have significant environmental and occupational impacts if not very carefully managed. A responsible circular economy can only be achieved by eliminating such negative externalities to humans, ecosystems, and natural capital.

15. Direct reuse of electronic equipment, or reuse after repair or refurbishment, can contribute even more to sustainable development than materials recovery, but only if properly managed in a manner which likewise eliminates externalities. By extending the life of electronic equipment, reuse can reduce the environmental footprint of the resource-intensive processes involved in producing new electronic equipment. Reuse may also facilitate the availability of electronic equipment to groups in society that otherwise would not have access to it, since the cost of second-hand electronic equipment is lower than that of new equipment. However, it is well known that unscrupulous traders often justify exports to developing countries in terms of recycling, reuse, or helping the poor when often the electronic equipment traded is not readily reusable or recyclable and such exports are little more than dumping. Even when exports are not made under sham or false pretexts, exports of non-functional electronic equipment for repair or refurbishment still must be generally considered as transboundary movement of waste. This is due to the fact that non-functional parts (e.g. bad batteries, mercury lamps, cathode ray tubes) must be replaced and disposed of in the receiving territory as part of the repair process. Therefore, all countries, even in the case of exports purported to be for reuse following repair, still must be afforded the rights provided under the Basel Convention to be informed of and consent to transboundary movements that leave or enter their territory.

16. The lack of clarity to date in providing responsible interpretive guidance regarding used electronic equipment, including the essential question of when used electronic equipment is waste and when it is not, has led to a number of situations where such electronic equipment is exported in particular to developing countries, ostensibly for legitimate reuse. But a large percentage of the exported used electronic equipment is not suitable for repair or further use, is not marketable, or the residual waste from the operation cannot be properly managed, resulting in exportation as a form of exploitation. This guideline is meant to be a guide on how to responsibly manage the trade in electronic waste and used electronic equipment consistent with the principles and obligations of the Basel Convention.

In the electronics market, Lagos, Nigeria. Copyright BAN, 2005

II. Relevant provisions of the Basel Convention, including the Basel Ban Amendment

A. Fundamental objective and scope of the Basel Convention, including the Ban Amendment

17. The Basel Convention and the Basel Ban Amendment[9] aim to protect human health and the environment against the adverse effects resulting from the generation, management, transboundary movements, and disposal of hazardous and other wastes.

18. Article 2 ("Definitions"), paragraph 1, of the Convention defines wastes as "substances or objects which are disposed of or are intended to be disposed of or are required to be disposed of by the provisions of national law." Paragraph 4 of that article defines disposal as "any operation specified in Annex IV" to the Convention. Paragraph 8 of the same article defines the environmentally sound management of hazardous wastes or other wastes as "taking all practicable steps to ensure that hazardous wastes or other wastes are managed in a manner which will protect human health and the environment against the adverse effects which may result from such wastes."

B. Definitions of waste and hazardous waste

19. The Convention defines wastes as "substances or objects which are disposed of or are intended to be disposed of or are required to be disposed of by the provisions of national law" (Article 2, paragraph 1). It defines disposal in Article 2, paragraph 4, as "any operation specified in Annex IV to this Convention." It is important to note that national provisions concerning the definition of waste may differ and, therefore, something that is not considered a waste under the Basel Convention can be regarded as waste on a national basis. Nevertheless, the Basel Convention's definitions must be viewed as the baseline for Parties -- with Parties allowed to be more inclusive of materials defined as wastes, but not less so.

20. Hazardous wastes are defined in Article 1, paragraphs 1(a) and 1(b), of the Convention as "(a) wastes that belong to any category contained in Annex I, unless they do not possess any of the characteristics contained in Annex III ["List of hazardous characteristics"]; and (b) wastes that are not covered under paragraph 1(a) but are defined as, or considered to be, hazardous wastes by the domestic legislation of the Party of export, import or transit." The definition of hazardous waste therefore incorporates domestic law such that material regarded as a hazardous waste in one country but not another is defined as hazardous waste under the Convention. The Convention also requires that Parties inform the other Parties, through the Secretariat of the Convention, of their national definitions (Article 3). Providing detailed and specific information on the national definitions of hazardous waste can promote compliance and avoid ambiguity concerning the applicability of national definitions.

21. To help Parties distinguish hazardous wastes from non-hazardous wastes for the purpose of Article 1, paragraph 1(a), two annexes (VIII and IX) have been added to the Convention. Annex VIII lists wastes considered to be hazardous according to Article 1, paragraph 1(a), of the Convention, unless they do not possess any of the characteristics of Annex III ("List of hazardous characteristics"). Annex IX lists wastes that are not covered by Article 1, paragraph 1(a), unless they contain Annex I material to an extent that causes them to exhibit an Annex III characteristic. Both Annex VIII and Annex IX list various types of waste, including e-waste.

22. Due to the complexity of electronic equipment and the thousands of chemical compounds they can contain, e-waste should generally be presumed to be hazardous waste unless it can be shown through testing or established literature that either it does not exhibit hazardous characteristics, or it does not contain hazardous components or substances. More information on the distinction between hazardous and non-hazardous e-waste is included in Section IV of the present guideline.

[9] Decision III/1, which will become new Article 4a once 68 countries ratify it from the list of countries present and voting at COP3.

C. General obligations of the Basel Convention and Basel Ban Amendment

23. Article 4 ("General obligations"), paragraph 1, establishes the procedure by which Parties exercising their right to prohibit the import of hazardous wastes or other wastes for disposal shall inform the other Parties of their decision. Paragraph 1(a) states: "Parties exercising their right to prohibit the import of hazardous or other wastes for disposal shall inform the other Parties of their decision pursuant to Article 13." Paragraph 1(b) states: "Parties shall prohibit or shall not permit the export of hazardous or other wastes to the Parties which have prohibited the import of such wastes when notified pursuant to subparagraph (a) above."

24. Article 4, paragraphs 2(a)-(e) and 2(g), contain key provisions of the Basel Convention pertaining to environmentally sound management, transboundary movement, waste minimization, and waste disposal practices aimed at mitigating adverse effects on human health and the environment:

"Each Party shall take the appropriate measures to:

(a) Ensure that the generation of hazardous wastes and other wastes within it is reduced to a minimum, taking into account social, technological, and economic aspects;

(b) Ensure the availability of adequate disposal facilities, for the environmentally sound management of hazardous wastes and other wastes, that shall be located, to the extent possible, within it, whatever the place of their disposal;

(c) Ensure that persons involved in the management of hazardous wastes or other wastes within it take such steps as are necessary to prevent pollution due to hazardous wastes and other wastes arising from such management and, if such pollution occurs, to minimize the consequences thereof for human health and the environment;

(d) Ensure that the transboundary movement of hazardous wastes and other wastes is reduced to the minimum consistent with the environmentally sound and efficient management of such wastes, and is conducted in a manner which will protect human health and the environment against the adverse effects which may result from such movement;

(e) Not allow the export of hazardous wastes or other wastes to a State or group of States belonging to an economic and/or political integration organization that are Parties, particularly developing countries, which have prohibited by their legislation all imports, or if it has reason to believe that the wastes in question will not be managed in an environmentally sound manner, according to criteria to be decided on by the Parties at their first meeting;

…(g) Prevent the import of hazardous wastes and other wastes if it has reason to believe that the wastes in question will not be managed in an environmentally sound manner."

25. Hazardous wastes and other wastes should, if compatible with environmentally sound and efficient management, be disposed of in the country where they were generated (preambular paragraph 8). Transboundary movements of such wastes from the country of their generation to any other country should be permitted only when conducted under conditions that do not endanger human health and the environment (preambular paragraph 9). In addition, transboundary movements of hazardous wastes and other wastes are permitted only if:

(a) Such wastes, if exported, are managed in an environmentally sound manner in the country of import or elsewhere (Article 4, paragraph 8); and

(b) One of the following conditions is met (Article 4, paragraph 9):

(i) The country of export does not have the technical capacity and the necessary facilities, capacity or suitable disposal sites to dispose of the wastes in question in an environmentally sound and efficient manner; or

(ii) The wastes in question are required as a raw material for recycling or recovery industries in the country of import; or

(iii) The transboundary movement in question is in accordance with other criteria decided by the Parties.

26. In addition to the above, the Basel Ban Amendment recognizes that transboundary movements of hazardous wastes, especially to developing countries, have a high risk of not constituting environmentally sound management of hazardous wastes as required by the Convention. It forbids exports of hazardous wastes from stronger economies (as defined in new Annex VII) to weaker economies, due to the propensity of such movements to be an exploitive means to externalize costs and/or harm to weaker economies and thus avoid the higher costs of environmentally sound management of wastes in the exporting country.

27. The Basel Ban Amendment, at the time of publication of this document, is but two countries (of those present and voting at COP3) away from entering into global force and becoming binding on those countries that have ratified it (currently 95 countries) and on all future Parties to the Convention. Furthermore, adherence to the Vienna Convention's Law of Treaties (Article 18) requires Parties to do nothing to undermine the object and purpose of an instrument prior to its entry into force. It is with this instruction by the Vienna Convention that the present guideline includes application of the Ban Amendment.

28. The Ban Amendment establishes a new annex (Annex VII) of developed countries for which export of hazardous waste to non-Annex VII countries is prohibited for any reason.

The Ban Amendment reads as follows:

> "Insert new preambular paragraph 7 bis:
>
> Recognizing that transboundary movements of hazardous wastes, especially to developing countries, have a high risk of not constituting an environmentally sound management of hazardous wastes as required by this Convention."
>
> "Insert new Article 4a:
>
> 1. Each Party listed in Annex VII shall prohibit the export of hazardous wastes which are destined for operations according to Annex IV A, to States not listed on Annex VII.
>
> 2. Each Party listed in Annex VII shall phase out by 31 December 1997, and prohibit as of that date, all transboundary movements of hazardous wastes under Article 1 (1) (a) of the Convention which are destined for operations according to Annex IV B to States not listed on Annex VII. Such transboundary movement shall not be prohibited unless the wastes in question are characterized as hazardous under the Convention."
>
> "Annex VII: Parties and other States which are members of the OECD, EU, Liechtenstein."

D. The Basel Convention control procedure for transboundary movements of waste

29. Any transboundary movement of hazardous and other wastes is subject to prior written notification from the exporting country and prior written consent from the importing country and, if applicable, transit countries (Article 6, paragraphs 1- 4). Parties shall prohibit the export of hazardous wastes and other wastes if the country of import prohibits the import of such wastes (Article 4, paragraph 1(b)). Some countries have implemented national or regional prohibitions. For example, the European Union has implemented the Ban Amendment noted above in advance of its entry into global force. Similarly, the Bamako Convention for African States bans all imports of hazardous and other wastes into the continent of Africa from outside the continent. Other countries, such as China, have banned the import of most wastes on a national basis.

30. The Basel Convention requires that information regarding any proposed transboundary movement of hazardous and other wastes be provided to the countries concerned (importing, transit, and exporting) using the accepted notification form (Article 4, paragraph 2(f)) and that the approved shipment be accompanied by a movement document from the point at which the transboundary movement commences to the point of disposal (Article 4, paragraph 7(c)).

31. Furthermore, hazardous wastes and other wastes subject to transboundary movements should be packaged, labelled, and transported in conformity with international rules and standards (Article 4, paragraph 7(b)).[10]

32. When transboundary movements of hazardous and other wastes to which consent of the countries concerned has been given cannot be completed, the country of export shall ensure that the wastes in question are taken back into the country of export if alternative arrangements cannot be made for their disposal in an environmentally sound manner (Article 8, first sentence). In the case of illegal traffic (as defined in Article 9, paragraph 1) as a result of conduct on the part of the exporter or generator, the country of export shall ensure that the wastes in question are:

(a) Taken back by the exporter or the generator or, if necessary, by itself into the country of export, or, if impracticable,

(b) Otherwise disposed of in accordance with the provisions of the Convention (Article 9, paragraph 2).

33. No transboundary movements of hazardous wastes and other wastes are permitted between a Party and a non-Party to the Convention (Article 4, paragraph 5), unless a valid bilateral, multilateral, or regional arrangement exists, as required under Article 11 of the Convention.

34. With respect to the Ban Amendment, as noted previously, while the Amendment is two Parties away from entering into global legal force, nothing should be done by Parties having ratified it to defeat its object and purpose pending entry into force (Vienna Convention, Article 18). Thus, all wastes considered as hazardous or for which their hazardousness is uncertain should not be subject to transboundary movement from an Annex VII territory to a non-Annex VII territory, as long as one of the States concerned (exporting, importing or transit) has ratified the Amendment, prior to or after its entry into global force.

Royal Thai Police raid Wai Mei Dat Company, Thailand. Copyright The Nation 2018

[10] In this connection, the United Nations Recommendations on the Transport of Dangerous Goods (Model Regulations) (ECE, 2003a – see Annex V, bibliography) of 2003, or later versions, should be used.

III. Guidance on the Distinction between Waste and Non-Waste Used Electronics

E-WASTE

A. When used electronic equipment should be considered e-waste

35. Notwithstanding the limited, conditional exceptions outlined below in E, used electronic equipment that is tested and found to not be fully functional, or is untested, or for which the full functionality is unknown, should be considered as waste and subject to the relevant Basel controls and obligations.

36. This determination is an important and best practice due to the fact that such used electronic equipment, all or in part, will likely be destined for recycling or disposal (Annex IV operations) -- the Basel annex which is definitive regarding waste determination. For example, when hazardous non-functional parts or components are imported inside the electronic equipment and must be replaced as part of the repair process, or when the equipment is, following importation, found to be economically unrepairable, then Annex IV operations will inevitably be involved.

37. Further, used electronic equipment is waste in a country if it is defined as or considered to be waste under the provisions of that country's national legislation. For example, some countries may wish to consider used electronic equipment beyond a certain age to be de facto waste, regardless of functionality, to avoid the burden of importing near-end-of-life electronic equipment. Parties may also wish to consider obsolete technologies, such as cathode ray tubes, to be waste regardless of functionality. Parties are fully entitled to establish new wastes or hazardous wastes on a national basis, provided they notify the Secretariat accordingly under Article 3 of the Convention.

38. When a State concerned (exporting, importing, or transit) considers used electrical and electronic equipment to be waste, or is unsure of whether the used electronic equipment is waste, all Parties involved in the shipment should assume the electronic equipment is waste, and in the absence of proof that it is non-hazardous, consider such waste to be hazardous and comply with the Basel Convention control procedures and obligations, including those pertaining to the prior informed consent (PIC) procedure, the assurance of environmentally sound management, and the Basel Ban Amendment (for countries having ratified it).

39. Additionally, waste indicators, while not by themselves always definitive, can be useful to customs, environmental agents, harbour police, etc. to distinguish waste from non-waste -- for example, when claims are made about shipments being non-waste or their indicated destinations are suspected of being false or unknown. These useful indicators are outlined below.

B. Indicators where used electronic equipment should normally be considered waste

40. Used electronic equipment should normally be considered waste if:

(a) The equipment cannot perform its key functions;

(b) The equipment, all or in part, is destined for disposal or recycling, or its fate is uncertain;

(c) The equipment is not complete; essential parts are missing;

(d) The equipment shows physical damage that impairs its functionality or safety as defined in relevant standards, or is so badly damaged or broken as to not be repairable at a profit;

(e) The protections taken to prevent damage to human health, the environment, the transport mechanism and the cargo itself during transport, loading, and unloading operations are inappropriate or inadequate, e.g., packaging or stacking of the load is insufficient or the shipment of any lithium-ion batteries has not been accomplished in accordance with all relevant packaging and shipping requirements;

(f) The equipment is particularly worn or damaged in appearance and this reduces its marketability;

(g) The equipment has among its constituent part(s) a hazardous component or hazardous substances to an extent that the substances and/or the equipment that contain them is required to be disposed of, or is prohibited to be exported, imported, or used under national legislation, specific multilateral environmental agreements, or relevant international standards and guidelines;[11]

(h) There is no regular market for the equipment to be reused in the location to which it is to be exported, donated, or sold, including when the equipment contains a cathode ray tube (CRT), except when there is a verifiable market for professional use of equipment containing a cathode ray tube;

(i) The equipment is destined for disassembly to gain spare parts;

(j) The price paid for the equipment is significantly lower than would be expected for fully functional equipment intended for reuse; or

(k) The exporter or consignee cannot be located or communicated with.

41. For direction and guidance on exports of e-waste please refer to Section V below.

NON-E-WASTE / FULLY FUNCTIONAL

C. Shipments of fully functional used electronic equipment destined for direct reuse or extended use by the original owner

42. Used electronic equipment that has been evaluated, tested, and shown to be suitable for reuse and is fully functional without further repair or refurbishment prior to export (see D below) should normally not be considered waste subject to the controls of the Basel Convention when all of the following are met:

(a) It is not (all or in part) destined for any of the operations listed in Annex IV of the Convention (recovery or final disposal operations) and it is verifiably destined for **direct reuse (see Glossary), or extended use by the original owner** for the purpose for which it was originally intended;

(b) The following documentation is provided and moves with the shipment (use of the form in Appendix II in the present guideline is recommended), and is retained by the exporter for a period of 5 years:

(i) A copy of the invoice and contract relating to the sale and/or transfer of ownership of the used electronic equipment;

(ii) An inventory of all used electronic equipment in the consignment, including name and type of the equipment, name of manufacturer, identification number, year of production;

(iii) Evidence of testing completed in the country of export and type and date of the testing, in the form of a copy of records (certificate of professional testing and proof of functionality) on or regarding every item within the shipment describing the testing protocol and results (see D below); and

(iv) A declaration made by the exporter of the electronic equipment that none of the electronic equipment within the shipment (regardless of functionality) is defined as or is considered to be waste in any of the countries involved in the transport (export, import, and transit), and assertion that the consignee will make the electronic equipment available for reuse; and

[11] For instance, asbestos, POPs, mercury and ozone-depleting substances.

(c) Each piece of electronic equipment is individually protected against damage and to prevent hazards or damage during transportation, loading and unloading, in particular through sufficient and appropriate packaging and stacking of the load. The shipment of any lithium-ion batteries must be accomplished in accordance with all relevant packaging and shipping laws and industry requirements.

D. Evaluation and testing of used electronic equipment destined for direct reuse

43. When preparing the transboundary movement of used electronic equipment destined for direct reuse covered by paragraph 42, the exporter should take the following steps:

Step 1: Evaluation

44. In seeking to determine whether used electronic equipment is suitable for direct reuse, the electronic equipment should be at least visually inspected prior to export and prior to functionality testing, and shown not to possess the characteristics of c, d, or f in paragraph 40 above.

Step 2: Testing

45. The tests to be conducted depend on the kind of electronic equipment in question. The completion of a visual inspection of the electronic equipment without testing its functionality is not sufficient. For most electronic equipment, a functionality test of key functions and a verification that there are no non-functional hazardous parts are sufficient. A list of examples of functionality tests for certain categories of used electronic equipment is provided in Appendix V to the present document.

46. Testing should be conducted by a qualified, certified, or trained technician.

Step 3: Recording

47. Results of evaluation and testing should be recorded for each unit. The record should contain the following information:

(a) Name of the item;

(b) Name of the producer/manufacturer (if available);

(c) Identification number of the item (e.g. serial number, UPC or bar code), where applicable;

(d) Year of production (if available);

(e) Name and address of the company responsible for evidence of functionality;

(f) Results of tests described in step 2, including date of the functionality test;

(g) Types of tests performed; and

(h) Signed declaration by the company responsible for evidence of functionality.

48. The records described in paragraph 42 above should accompany the shipment and be fixed securely, but not permanently, either on the used electronic equipment itself or on the packaging so that it can be read without unpacking the electronic equipment. A recommended form for recording the results of evaluation and testing is contained in Appendix II to the present guideline.

NON-E-WASTE / NOT FULLY FUNCTIONAL CONDITIONAL EXCEPTION

E. Conditional exceptions to the rule that non-functional electronic equipment is waste

49. The two conditional exceptions below are allowed only if the States concerned have determined this electronic equipment to be non-waste and only under the conditions indicated in subsections F and G.

(a) **Equipment for professional use** destined for failure analysis, repair and refurbishment.

Definition: Electronic equipment for professional use is electronic equipment that is designed to be used solely by professional users and is not consumer electronics, such as specialty equipment used in the professional fields of medicine, aviation, and science. Electronic equipment that is likely to be used by private households, or by private households and professional users, is not equipment for professional use.

(b) **Qualified consumer equipment** destined for repair and/or refurbishment.

Definition: Economically repairable whole electronic equipment that is not defined as equipment for professional use, if it does not contain or consist of cathode ray tubes (CRTs) or intentional inputs of polychlorinated biphenyls (PCBs), mercury, asbestos, liquid or flammable gases, or ozone-depleting substances.

50. All units of electronic equipment in both categories of exceptions noted above must be at least visually inspected prior to export and shown not to possess the characteristics of (c), (d), or (f) in paragraph 40 above and deemed to be economically repairable[12] to its essential functions and the electronic equipment or component, once repaired, is suitable for safe and viable service.

51. For qualified consumer electronic equipment for repair or refurbishment, the exporter should ensure and provide documented evidence that each unit of electronic equipment has been evaluated and determined to not contain or consist of cathode ray tubes (CRTs), mercury, asbestos, polychlorinated biphenyls (PCBs), flammable gases, or ozone-depleting substances.

52. Parties may decide to only allow the exception above for equipment for professional use, and not for qualified consumer electronics, to vastly limit the universe of potential imports while ensuring rapid failure analysis and repair of vital equipment such as medical equipment.

F. Party requirements for exercising the failure analysis, repair or refurbishment exception

53. Shipments of used **equipment for professional use** destined for failure analysis, repair, or refurbishment or **qualified consumer equipment** destined for repair and refurbishment will normally not be considered waste only when all States concerned have met or implemented prior to, during and after shipment, as applicable, the following Party requirements. The Party should:

(a) Provide and maintain notification to the Secretariat of the Basel Convention, at least 3 months prior to transboundary movement for this purpose in accordance with Article 13 ("Transmission of information") of the Convention for entry into the Basel Convention National Reporting database,[13] of the following:

(i) The Party indicates that it has decided to allow, in accordance with the conditions described in this guideline, the transboundary movement of equipment for professional use destined for failure analysis, repair and refurbishment, and/or qualified consumer equipment for repair and refurbishment as non-waste;

(ii) Any additional conditions to those found in the present guideline by which the electronic equipment might or might not be considered a waste or non-waste;

[12] Economically repairable means the cost of repair is less than the worth of the fully functional equipment following repair.

[13] National Reporting as required by Article 3 and Article 13 and found in the database on the Basel Convention website and entered into the question window 2a. See http://www.basel.int/Countries/NationalReporting/NationalReports/BC2017Reports/tabid/7749/Default.aspx

(iii) Any further conditions or requirements to those found in the present guideline, such as requiring the repatriation of all e-waste or all hazardous e-waste resulting from the repair, refurbishment, or failure analysis operations in their country;

(iv) A current list of all qualified in-country **exporters**, as applicable, including names and addresses, that are approved by the Party as being legally responsible to implement the export and transboundary movements of such used electronic equipment in conformity with the Basel Convention and its guidance documents, including this one; and

(v) A current list of qualified in-country environmentally sound **importing facilities**, as applicable, including names of persons legally responsible and addresses of physical facilities that are approved by the Party for receiving and processing used electronic equipment for failure analysis, repair, or refurbishment in conformity with the Basel Convention and its guidance documents, including this one;

(b) Approve exporters and importing facilities as described in (iv) and (v) above on the basis of their understanding of this guideline, all applicable conditionalities, and the Basel Convention, and enforce such, including in G below (Requirements of Exporter and Importing Facility), national and regional waste trade laws and relevant legislation regarding transport of dangerous goods and commodities;

(c) Conduct regular inspections to ensure consistent compliance with conditions in this guideline, including G below. The *Guideline on environmentally sound testing, refurbishment and repair of used computing equipment* developed under PACE (PACE, 2011a) can be used by countries to help ensure that any such operations are environmentally sound;

(d) Provide and maintain an up-to-date publicly-accessible national registry with the same list of approved environmentally sound exporters notified to the Secretariat of the Basel Convention ((iv) above);

(e) Provide and maintain an up-to-date publicly-accessible national registry with the same list of approved environmentally sound importing facilities as notified to the Secretariat of the Basel Convention ((v) above); and

(f) Only trade in such used electronics with other importing or exporting States concerned that have all likewise notified the Secretariat of the Basel Convention in accordance with this paragraph 53 and only to and from approved and listed exporters and importing facilities, as applicable.

G. Requirements of the exporter and legal representative of importing facility for trans-boundary movements of non-functional electronic equipment for professional use and qualified consumer electronics

54. Exporters wishing to participate in the government sanctioned and registered activity of export for repair, refurbishment, and failure analysis of used electronic equipment should be approved by Parties on the basis of their understanding of this guideline, the Basel Convention, national waste trade export laws, and relevant legislation regarding transport of dangerous goods and commodities prior to any export taking place.

55. For both qualified consumer equipment and equipment for professional use, the exporter must ensure for each shipment:

(a) Declaration and Movement Document: That a written declaration and movement document (see recommended form in Appendix III) is completed in full by the exporter and accompanies the shipment with the following information:

(i) A list of all States concerned (export, transit, and import) and evidence that the exporting and importing States are all registered in the Basel Convention

National Reporting database as agreeing that, subject to the conditions and qualifications noted in this guideline, either or both equipment for professional use and/or qualified consumer equipment can be considered a non-waste;

(ii) A statement affirming the existence of a contract as described in (c) below and agreement that this contract will be provided to authorities upon request;

(iii) A statement affirming that he/she will provide additional information to authorities upon request;

(iv) The current name, address, email, and phone number of the exporter, and proof that they are pre-listed in the Basel Convention National Reporting database by the exporting State government as being approved;

(v) The current name, address, email, and phone number of the importing facility and its legal representative, as well as proof that the facility is pre-listed in the Basel Convention National Reporting database by the importing State as being approved as a facility capable of environmentally sound failure analysis, repair, or refurbishment, as applicable;

(vi) Description of each unit of used electronic equipment in the shipment, including type of electronic equipment, name of manufacturer, and year of production;

(vii) Quantity of each type of electronic equipment;

(viii) Purpose of the transboundary transport (failure analysis, repair, or refurbishment);

(ix) Starting date of the transport; and

(x) A copy of the invoice relating to the sale and/or transfer of the used electronic equipment for either failure analysis, repair, or refurbishment.

(b) Protective Packaging: That each piece of electronic equipment is protected against damage and to prevent hazards of all kinds during transportation, loading and unloading, in particular through sufficient packaging and stacking of the load. The shipment of any lithium-ion batteries must be accomplished in accordance with all relevant packaging and shipping laws and industry requirements.

(c) Contract: That a valid contract exists and is enforced between the exporter and the legal representative of the facility in the importing country where the equipment for professional use will undergo failure analysis and subsequent management (see (iv) below), or qualified consumer electronics will be repaired or refurbished. The contract should be made available to authorities upon request. The contract should contain at minimum the following:

(i) A statement of the intention of the transboundary transport for the purpose of reuse, also stipulating whether the transport contains equipment for professional use or qualified consumer equipment;

(ii) A requirement that upon receipt of the shipment, the receiving facility should provide the exporter with a signed declaration of receipt of the same shipment including total weight and condition;

(iii) A provision affirming the responsibility of both the exporter and the legal representative of the importing facility to comply with applicable national legislation and international rules, the Basel Convention and its guidelines, including this one, and stipulating the right of authorities to full access to information needed to ensure compliance;

(iv) A provision requiring that all failure analysis must be accomplished within one month of receipt of the used electronic equipment, and then be either a) re-exported following the procedures of this guideline and the Basel Convention, b)

repaired in the importing facility, or c) considered as residual waste that is managed according to the present guideline;

(v) A provision requiring the importing facility to ensure and specify the final disposition of unrepairable or unmarketable e-waste, including residual materials generated from the failure analysis, repair, and/or refurbishment operations according to this guideline, including (vi) below and the Basel Convention;

(vi) A provision requiring that the representative of the importing facility ensures that all e-waste resulting from the repair/refurbishment/failure analysis operation that is hazardous or presumed to be hazardous under the Basel Convention and was originally imported from an Annex VII country will, by arrangement with the exporter, be repatriated to that Annex VII country or sent to an environmentally sound management facility in another Annex VII country. All transboundary movements of residual hazardous waste must be managed in accordance with the Basel Convention; and

(vii) A provision requiring the importing facility to provide the exporter and make available to authorities upon request an annual written feedback report on the final disposition of each shipment, including at a minimum:

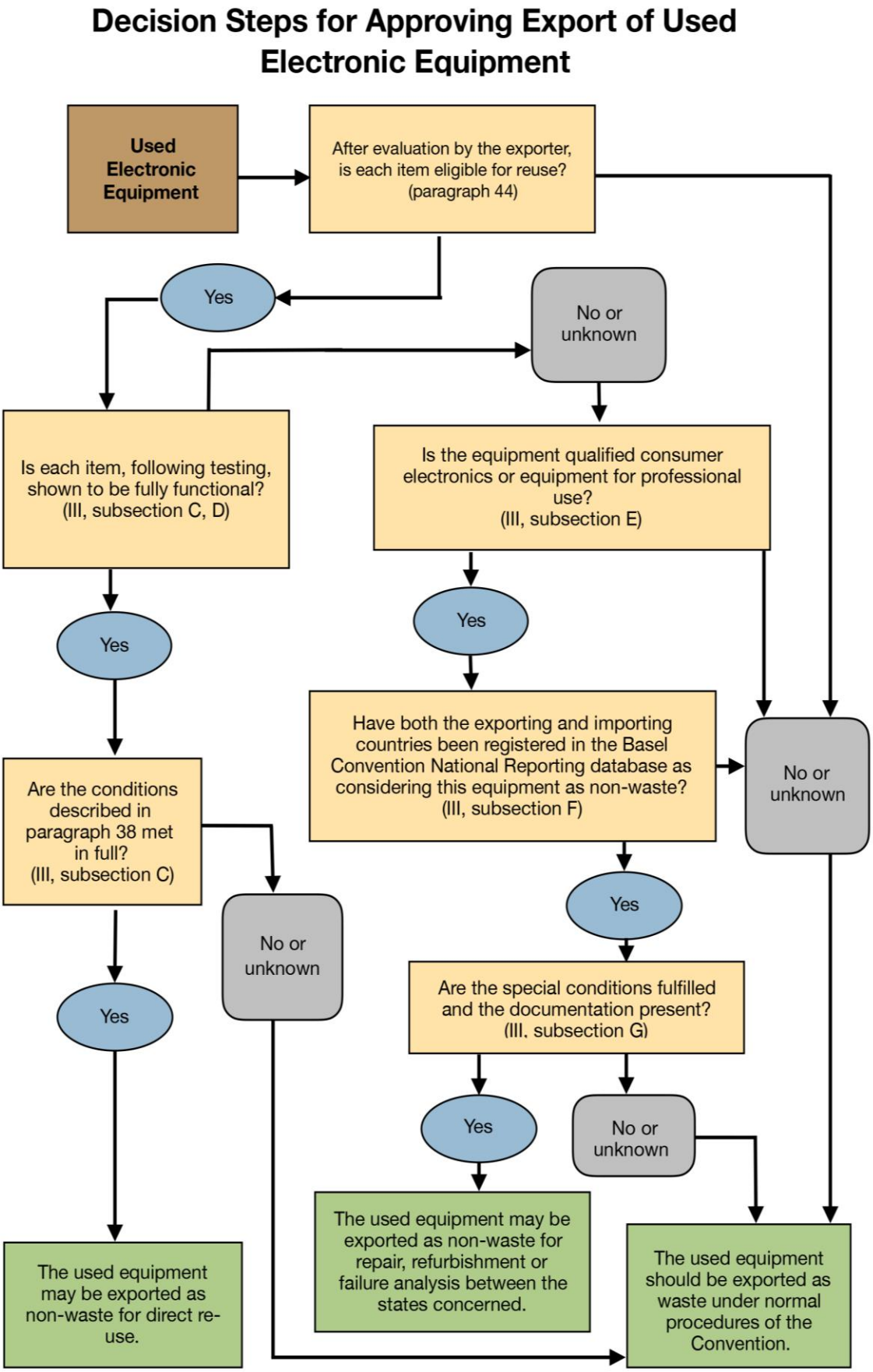
a. The results of the failure analysis, repair, and/or refurbishment of all electronic equipment received in terms of a mass balance accounting by weight or unit, reconciling 100% of incoming electronic equipment with 100% of resulting outputs for each shipment (i.e. documenting the total repaired electronic equipment and total e-waste generated); and

b. Documented evidence of the final disposition of all functional and non-functional electronic equipment and residual materials that were generated from such activities, in accordance with the Basel Convention, including the Ban Amendment (see (vi) above), the present guideline, and any additional country requirements.

56. The exporter and importer should retain all documentation referred to in paragraph 55 above for a period of five years following the date a transboundary movement commences and make it available to authorities upon request.

57. Further, importing facilities may consider becoming certified to an internationally recognized voluntary standard that recognises and is in alignment with the Basel Convention and Basel Ban Amendment obligations and definitions. Three such standards are e-Stewards,[14] CENELEC,[15] and WEEELABEX.[16]

[14] www.e-stewards.org
[15] https://www.cencenelec.eu/News/Publications/Publications/WEEE-brochure.pdf
[16] https://www.weeelabex.org/standards/



These decision steps reference *The Responsible Guideline on Transboundary Movements of Used Electronic Equipment to Promote an Ethical Circular Economy under the Basel Convention*, including its glossary of terms (Appendix I).

IV. Distinction between hazardous e-waste and non-hazardous e-waste

58. Due to the complexity of most electronic equipment and the diversity of components and materials used, it is recommended that Parties assume all e-waste is hazardous waste unless sampling and chemical analysis (e.g. TCLP tests) for hazardous elements or compounds has been conducted or, alternatively, literature evidence of previous sampling can be presented. The burden of documented proof that e-waste is not hazardous is on those seeking to characterize the e-waste as being non-hazardous.

59. e-Waste is included in Annex VIII to the Convention under the following entry for hazardous waste:

> "A1180 Waste electrical and electronic assemblies or scrap[17] 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 characteristics contained in Annex III (note the related entry on list B B1110)."[18]

60. e-Waste is also included in Annex IX to the Convention under the following entry for non-hazardous waste:

> "B1110 Electrical and electronic assemblies:
>
> - Electronic assemblies consisting only of metals or alloys;
> - Waste electrical and electronic assemblies or scrap[19] (including printed circuit boards) not 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 not contaminated with Annex I constituents (e.g., cadmium, mercury, lead, polychlorinated biphenyl) or from which these have been removed, to an extent that they do not possess any of the characteristics contained in Annex III (note the related entry on list A A1180);
> - Electrical and electronic assemblies (including printed circuit boards, electronic components and wires) destined for direct reuse,[20] and not for recycling or final disposal."[21]

61. Electronic equipment will often contain hazardous components or substances which may not be listed in A1180 but are listed in Annex I. e-Waste containing such components or substances may qualify as hazardous waste if the waste exhibits the hazardous characteristics listed in Annex III.

62. Some of the known Annex I constituents likely to exhibit hazards characteristics found in e-waste include the following: [22]

(a) Lead-containing glass from cathode ray tubes (CRTs) and imaging lenses, which fall under Annex VIII entries A1180 and A2010 (glass from cathode ray tubes and other activated glass") and Annex I category Y31 ("Lead; lead compounds") and are likely to possess Annex III hazardous characteristics H6.1, H11, H12, and H13;

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[17] This entry does not include scrap assemblies from electric power generation.

[18] PCBs are at a concentration level of 50 mg/kg or more.

[19] This entry does not include scrap from electrical power generation.

[20] Note: Parties have concluded that this footnote will be changed due to the newer common usage of the term "direct reuse" and the fact that this bullet refers to waste definitions and not the distinction between hazardous and non-hazardous waste. The old footnote which is deemed inappropriate reads: "Reuse can include repair, refurbishment or upgrading, but not major reassembly." Until the Basel Annex IX is changed it would be wise to eliminate this second bulleted entry entirely from application.

[21] Note: The old footnote said: "In some countries these materials, when destined for direct reuse, are not considered wastes." However, this, as noted in footnote 20 above, is based on an older outmoded definition of "direct reuse". As stated above it would be wise to eliminate this second bulleted entry entirely until it is changed.

[22] The hazardous components and constituents listed in this paragraph are provided as examples; the list provided here is therefore not exhaustive.

(b) Nickel-cadmium batteries and batteries containing mercury, which fall under Annex VIII entry A1170 ("unsorted waste batteries…") and Annex I categories Y26 ("Cadmium; cadmium compounds") and Y29 ("Mercury, mercury compounds") and are likely to possess Annex III hazardous characteristics H6.1, H11, H12, and H13;

(c) Selenium drums, which fall under Annex VIII entry A1020 ("selenium; selenium compounds") and Annex I category Y25 ("Selenium; selenium compounds") and are likely to possess Annex III hazardous characteristics H6.1, H11, H12, and H13;

(d) Printed circuit boards, which fall under Annex VIII entries A1180 ("waste electrical and electronic assemblies…") and A1020 ("antimony; antimony compounds" and "beryllium; beryllium compounds") and contain brominated compounds and antimony oxides as flame retardants, lead in solder, and beryllium in copper alloy connectors. They also fall under Annex I categories Y31 ("Lead; lead compounds"), Y20 ("Beryllium, beryllium compounds"), Y27 ("Antimony, antimony compounds") and Y45 ("organohalogen compounds other than substances referred to" elsewhere in Annex I) and are likely to possess Annex III hazardous characteristics H6.1, H11, H12, and H13;

(e) Fluorescent tubes and backlight lamps from liquid crystal displays (LCD), which contain mercury and therefore fall under Annex VIII entry A1030 ("Mercury; mercury compounds") and Annex I category Y29 ("Mercury; mercury compounds") and are likely to possess Annex III hazardous characteristics H6.1, H11, H12, and H13;

(f) Plastic components containing brominated flame retardants (BFRs), in particular BFRs that are persistent organic pollutants according to the Stockholm Convention, may in some cases fall under Annex VIII entry A3180 ("Wastes, substances and articles containing, consisting of or contaminated with polychlorinated biphenyl (PCB), polychlorinated terphenyl (PCT), polychlorinated naphthalene (PCN) or polybrominated biphenyl (PBB), or any other polybrominated analogues of these compounds, at a concentration of 50 mg/kg or more"). In general, wastes containing BFRs also fall under Annex I category Y45 ("organohalogen compounds other than substances referred to" elsewhere in Annex I) and, if antimony compounds are used as synergists of the BFRs, under category Y27 ("Antimony, antimony compounds"). Depending on the concentration and the chemical properties of the BFRs and their synergists, plastic components containing BFRs may possess Annex III hazardous characteristics H6.1, H11, H12, and H13.

(g) Other components containing or contaminated with mercury, such as mercury switches, contacts, and thermometers, which fall under Annex VIII entries A1010, A1030 and A1180 and Annex I category Y29 ("Mercury; mercury compounds") and are likely to possess Annex III hazardous characteristics H6.1, H11, H12, and H13;

(h) Oils/liquids, which fall under Annex VIII entry A4060 ("Waste oil/water, hydrocarbons/water mixtures, emulsions") and Annex I categories Y8 ("Waste mineral oils unfit for their originally intended use") and Y9 ("Waste oil/water, hydrocarbons/water mixtures, emulsions") and are likely to possess hazardous characteristics H3, H11, H12and H13;

(i) Components containing asbestos, such as wires, cooking stoves, and heaters, which fall under Annex VIII entry A2050 ("Waste asbestos (dusts and fibres)") and Annex I category Y36 ("Asbestos (dust and fibres)") and are likely to possess Annex III hazardous characteristic H11; and

(j) Electronic equipment or components containing PFASs (per- and polyfluoroalkyl substances), including but not limited to some mobile phones and hard drives. PFASs fall under Annex I category Y45 (organohalogen substances other than substances referred to elsewhere in Annex I) and are likely to possess the hazardous characteristics of H11 (toxic) and H12 (ecotoxic).

63. Electronic Equipment containing ozone-depleting substances, often found in refrigerators, insulation foams, etc. while subject to other international instruments should, for the purpose of this guideline, be considered as hazardous waste.

64. Further guidance on and examples of hazardous and non-hazardous electronic equipment are contained in Appendix V to the present document.

V. Specific guidance on transboundary movements of e-waste

65. The transboundary movement of used electronic equipment, unless demonstrated conclusively to be non-hazardous, should be considered a transboundary movement of hazardous waste except in the two conditional instances described in Section III: 1) in subsections C and D for direct reuse or extended use by the owner, and 2) in subsections E through G for failure analysis, repair, or refurbishment of equipment for professional use or qualified consumer equipment respectively when all States concerned agree to these movements being non-waste in accordance with the corresponding conditions in the present guideline.

66. When e-waste is considered to be hazardous waste according to Article 1, paragraph 1 (a) of the Convention referring to Basel Annexes, or in accordance with Article 1, paragraph 1 (b) referring to national definitions, the Basel Convention applies. Further, national import or export prohibitions must be respected. Such prohibitions can be found in the Basel Convention National Reporting database. When no such national prohibitions exist, the control procedures of the Convention, outlined in Section II in C and D of the present guideline, apply.

67. In cases where the competent authority of a country involved in a transboundary movement of e-waste considers a specific item to be hazardous waste according to that country's national law, while competent authorities of other States would not, the control procedure for hazardous waste described in Article 6, paragraph 5 of the Convention would apply. The same mechanism is suggested in cases where there are differences of opinion between competent authorities as to whether a piece of electronic equipment constitutes waste. In those cases, the procedures applicable to transboundary movements of waste would apply. If this approach is not followed, the movement would be regarded as illegal.

68. For e-waste that is not considered to be hazardous by all States concerned, the Basel Convention does not contain a specific procedure. However, some Parties have developed procedures to deal with these cases, such as those applicable to transboundary movements of "green-listed" waste under European Union legislation. [23] Such national information regarding procedures for wastes not considered to be hazardous should be found in the Basel Convention National Reporting database.

69. For used electronic equipment conditionally considered under this guideline as non-waste (equipment for professional use, qualified consumer equipment, and electronic equipment destined for direct reuse), its transboundary movement may be considered illegal traffic under Article 9 of the Convention by the States concerned if any of the conditions found in this guideline or in the Convention, as applicable, are not adhered to or false information is provided.

70. With respect to the Ban Amendment, as noted previously, even before it has entered into force globally, nothing should be done by ratifying Parties to defeat its object and purpose pending entry into force (Vienna Convention, Article 18). Therefore, all movements of hazardous e-wastes, or e-wastes presumed to be hazardous, must not be exported from an Annex VII country to a non-Annex VII country if any of the States concerned have ratified the Ban Amendment.

[23] Regulation (EC) No. 1013/2006 on shipments of waste and Regulation (EC) No. 1418/2007 concerning the export for recovery of certain waste listed in Annex III or IIIA to Regulation (EC) No. 1013/2006 to certain countries to which the OECD decision on the control of transboundary movements of wastes does not apply (see: http://ec.europa.eu/environment/waste/shipments/legis.htm).

VI. Guidance on the enforcement of provisions regarding transboundary movements of used electronic equipment

71. Inspections should be undertaken by competent bodies of State and local authorities (e.g., police, customs, and environmental inspectors) at facilities and during movements.

72. Sample photographs of illegal shipments[24] and examples of documentation could be used and/or developed to help educate officers at borders, ports, and other inspection points on how to identify illegal shipments.

73. Exporters of used electronic equipment that is not considered waste in accordance with the Convention and this guideline should ensure that the electronic equipment is accompanied by appropriate documentation and meets all conditions in accordance with Section III, subsections E, F, and G of the present guideline.

74. For practical reasons of control, every load of used electronic equipment should also be accompanied by the relevant transport document, e.g. a waybill or a CMR document,[25] where applicable. The transport document should contain a description of the goods transported using the Harmonized Commodity Description and Coding System (normally referred to as the "Harmonized System") developed by the World Customs Organization (WCO).

75. In the absence of proof that an item is used electronic equipment and not e-waste through appropriate documentation and the presence of all conditions in accordance with Section III, subsections E, F, and G of the present guideline, the relevant State authorities (e.g., customs, police, or environmental inspectors) should consider the item to be hazardous e-waste and may consider that the export constitutes a case of illegal traffic under Article 9 of the Convention. In such circumstances, the relevant competent authorities must comply with the provisions of Article 9. The Parties consider that illegal traffic in hazardous wastes or other wastes is criminal (Article 4, paragraph 3, of the Convention).

76. When e-waste is exported as hazardous waste, the documentation required under the control procedure of the Convention should accompany each shipment.

77. Health and safety issues and potential risks for enforcement agents (such as customs officers) are important for any inspection of shipments of e-waste or used electronic equipment. Enforcement officers should have specific training before conducting such inspections. Particular care should be applied when opening containers. If the shipment consists of waste, the items may not have been stacked in a stable way and may fall out of the container when it is opened for inspection. The load may also contain hazardous substances that could be released when the load is inspected. Further information regarding health and safety aspects of inspections is contained in Appendix V to the present document.

[24] Examples of sample photographs include manuals developed in Austria that are available at: http://www.bundesabfallwirtschaftsplan.at/dms/bawp/Handbuch-Leitfaden-Abfall-versus-Gebrauchtware---de-eng_end_2014-06-24_eBook/Handbuch%20Leitfaden%20Abfall%20versus%20Gebrauchtware%20-%20de-eng_end_2014-06-24_eBook.pdf (in English and German) and http://www.bundesabfallwirtschaftsplan.at/dms/bawp/Manual-Abfallverbringung-2012neu/Manual%20Abfallverbringung%202012neu.pdf (only in German).

[25] Document containing the information required under the Convention on the Contract for the International Carriage of Goods by Road (CMR Convention). Although the use of a particular form to present the information is not mandatory, it is recommended that the Parties use standard CMR forms to facilitate communication with inspection authorities in case of a control.

Appendix I

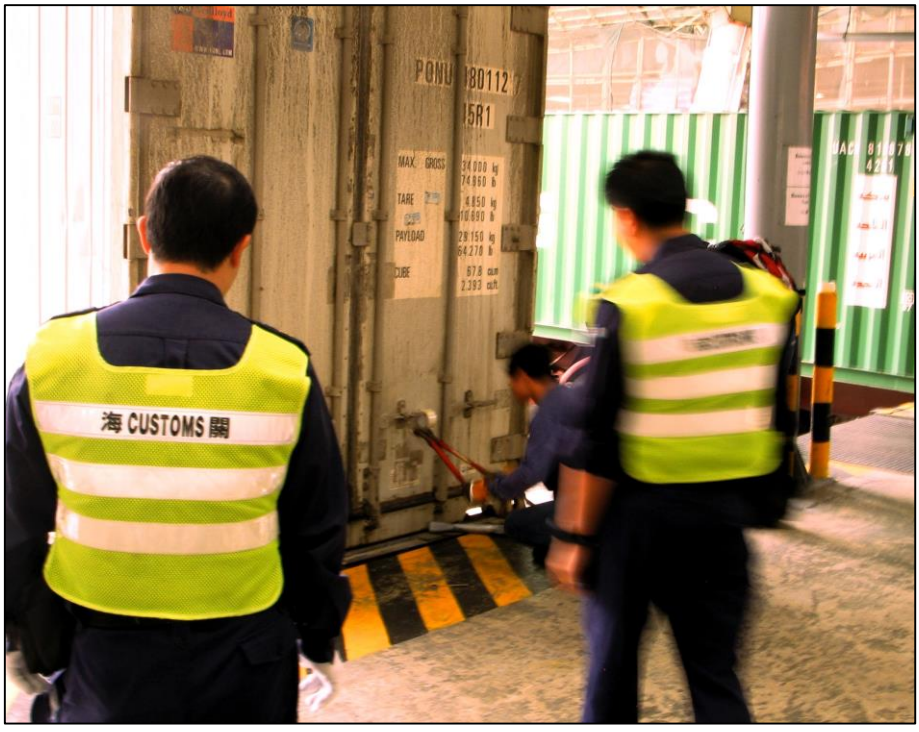
Glossary of Terms

Note: Some of the descriptions and definitions of the terms listed below were developed for the purpose of the present guideline and should not be considered as having been agreed to internationally. Their purpose is to assist readers to better understand the present guideline. Insofar as appropriate, the use of these terms has been aligned with terms used in other guidelines, including the Basel Convention Glossary of Terms and guidance documents developed under the Basel Convention.

Terminology	Description/definition
Basel Convention	Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, adopted on March 22, 1989 and entered into force in 1992.
Component	Element with electrical or electronic functionality designed to be connected with other components, including by soldering to a printed circuit board, to create an electric or electronic circuit with a particular function (for example, as an amplifier, radio receiver, monitor, hard-drive, motherboard, or battery).
Direct reuse	The using again of a product, object, or substance that is not waste for the same purpose for which it was conceived without the necessity of repair or refurbishment.
Disposal	Any operation specified in Annex IV to the Basel Convention (Article 2, paragraph 4, of the Convention).
Environmentally sound management	Taking all practicable steps to ensure that hazardous wastes or other wastes are managed in a manner that will protect human health and the environment against the adverse effects that may result from such wastes (Article 2, paragraph 8, of the Convention).
Electronic equipment	Electrical and electronic equipment that is dependent on electric currents or electromagnetic fields in order to work properly, including components that can be removed from equipment and tested for functionality, and either be subsequently directly reused or reused after repair or refurbishment.
Equipment for professional use	Electronic equipment that is designed to be used solely by professional users and is not consumer electronics, such as specialty equipment used in the professional fields of medicine, aviation, and science. Electronic equipment that is likely to be used by private households, or by private households and professional users, is not equipment for professional use. Note: Under this guideline, this equipment may conditionally be considered as non-waste.
e-Waste	Also known as WEEE. Electronic equipment that is waste, including whole equipment and its components, sub-assemblies, and consumables that are part of the equipment at the time the equipment becomes waste, as well as residual materials resulting from such equipment. e-Waste may include equipment that can and cannot be tested for functionality.
Exporter	The natural or legal person located in the country of export that wishes to export equipment for direct reuse, qualified consumer electronics for repair or refurbishment, or equipment for professional use for failure analysis, repair, or refurbishment in accordance with conditions in the present guideline.
Failure analysis	Tests performed on equipment for professional use by the original manufacturer or an agent on its behalf, collecting and analyzing data to determine the cause of a failure(s). Root cause analysis (RCA) is a particular kind of failure analysis.

	Imports for failure analysis must be followed by repair, recycling, final disposal, and/or possible transboundary movements accomplished in accordance to requirements in the present guideline and the Basel Convention.
Fully functional	Electronic equipment is fully functional if it has been tested and demonstrated to be capable of performing the key functions that it was designed to perform.
Hazardous Waste	Wastes that belong to any category contained in Annex I to the Convention, unless they do not possess any of the characteristics contained in Annex III, as well as additional wastes that are defined as, or are considered to be, hazardous wastes by the domestic legislation of the Party of export, import, or transit (Article 1, paragraph 1 of the Basel Convention).
Key functions	The essential functions of a unit of electronic equipment that will satisfactorily enable the equipment to be used as originally intended.
Other wastes	Wastes listed in Annex II of the Basel Convention.
Ozone-Depleting Substances	Defined for this guideline as any chlorofluorocarbon (CFC) or hydrochlorofluorocarbon (HCFC) compounds.
Non-waste	A substance or object that does not meet the definition of "waste."
Non-hazardous waste	A waste that does not meet the definition of "hazardous waste."
Qualified consumer equipment	Economically repairable whole electronic equipment that is not defined as equipment for professional use, if it does not contain or consist of cathode ray tubes (CRTs) or intentional inputs of polychlorinated biphenyls (PCBs), mercury, asbestos, liquid or flammable gases, or ozone-depleting substances. Note: Under this guideline, qualified consumer equipment may conditionally be considered as non-waste.
Recycling	Relevant operations specified in Annex IV, part B, to the Basel Convention.
Recovery	Relevant operations specified in Annex IV, part B, to the Basel Convention.
Refurbishment	Modification of an object that is a waste or a product to increase or restore its performance and/or functionality, or to meet applicable technical standards or regulatory requirements, with the result of making the waste or product a fully functional product to be used for a purpose that is at least the one for which it was originally intended.
Repair	Fixing a specified fault in an object that is a waste or a product and/or replacing defective components in order to make the waste or product a fully functional product to be used for its originally intended purpose.
Residual materials	Substances, constituents, and components in any form that are derived from electronic equipment, that cannot be tested for functionality, and result from: • Managing, handling, transporting or processing e-waste for recycling or disposal; or • Repair, refurbishment, or failure analysis operations. Residual materials include plastics, granulated and shredded materials.
Reuse	The using again of a product, object or substance that is not waste for the same purpose for which it was conceived, possibly after repair or refurbishment.

States concerned	Parties to the Basel Convention which are States of export or import, or transit States, whether or not Parties.
Wastes	Substances or objects which are disposed of. Note: refers to Basel Annex IV destinations, including recycling] or are intended to be or are required to be disposed of by the provisions of national law (Article 2, paragraph 1, of the Basel Convention). (See also definition of Disposal)
Waste electrical and electronic equipment (WEEE)	Also known as e-waste. Electronic equipment that is waste, including all whole equipment and components, sub-assemblies and consumables that are part of the equipment at the time the equipment becomes waste, as well as residual materials resulting from such equipment. e-Waste may include equipment that can and cannot be tested for functionality.



Inspectors of Hong Kong customs opening a container at the port. Copyright BAN 2009

Appendix II

Export Declaration for Used Electronic Equipment for Direct Reuse

Information to be completed by exporter[26] and tester of equipment to accompany each transboundary shipment of used equipment falling under paragraphs 42 through 48 of *The Responsible Guideline on Transboundary Movements of Used Electronic Equipment to Promote an Ethical Circular Economy under the Basel Convention.*

1. Exporter (responsible for meeting all conditions prior to export)	**2. Company responsible for evidence of functionality** (if different than the exporter)	**3. Receiving (initial) user, retailer or distributor in importing country**
Company name:	Company Name:	Company name:
Responsible person & position:	Person responsible for testing:	Name of responsible person & position:
Company address (including country):	Facility address (including country):	Company address (including country):
Tel: E-mail:	Tel: E-mail:	Tel: E-mail:

4. Declarations:

I, the **person who conducted the evaluation and testing**, declare that the results of evaluation and testing are complete and correct, according to paragraphs 42 - 48, to the best of my knowledge.

Printed Name: Date: Signature:

I, the **exporter** of the equipment listed below, hereby declare that prior to export, the used equipment listed below was tested and is fully functional[27] according to paragraphs 42 - 48. I confirm that none of this equipment is defined as or considered to be waste in any of the countries involved in the transport and this entire shipment is destined for direct reuse[28] and not for repair, refurbishment, failure analysis, recovery, or disposal operations.

Printed Name: Date: Signature:

[26] Exporter is the natural or legal person, located in the country of export, that wishes to export equipment for direct reuse, in accordance with conditions in the present guideline.

[27] Electronic equipment is "fully functional" if it has been tested and demonstrated to be capable of performing the key functions that it was designed to perform.

[28] Direct reuse means the using again of fully functional electronic equipment that is not waste for the same purpose for which it was conceived without the necessity of repair or refurbishment.

5. Detailed information about all used electronic equipment in this shipment					
Name of each type of equipment[27]	**Name of the manufacturer (if available)**	**Identification number (e.g. serial number)**	**Year of production (if available)**	**Type & date of tests performed**	**Results of tests (e.g. indication of full functionality)[28]**
(Add additional pages listing each device, if needed)					

[29] Identify the names of the type of equipment, such as computer tower, laptop, monitor, fan, stereo receiver, printer, TV, etc.

[30] Attach details if necessary.

Appendix III

Export Form for Conditional Exceptions of Used Electronic Equipment Destined for Failure Analysis, Repair, and Refurbishment

Information and declaration to be completed by exporter[29] and to accompany each transboundary shipment of conditional exceptions of used electronic equipment falling under Section III, subsections E and G of *The Responsible Guideline on Transboundary Movements of Used Electronic Equipment to Promote an Ethical Circular Economy under the Basel Convention.*

<table>
<tr><td>1. Exporter
Company name:

Responsible person's name & position:

Company address (including country):

Tel.:
Fax:
Exporter's e-mail:</td><td>2. Legal representative of receiving facility in importing country
Name of facility:

Legal representative (person's) name & position:

Facility address (including country):

Tel.:
Fax:
Representative's e-mail:</td><td>3. All countries/States involved in the transboundary shipment

Export:

Transit:

Additional transit, if needed:

Import:</td></tr>
<tr><td>4. Start date of transport:</td><td rowspan="2"></td><td rowspan="2"></td></tr>
<tr><td>5. Net weight/quantity of equipment:</td></tr>
<tr><td colspan="3">For shipments of all conditional exceptions of used equipment, i.e. for professional use and qualified consumer equipment</td></tr>
<tr><td colspan="3">6. Purpose of the transport (check ONLY one):
☐ Failure analysis of equipment for professional use[32], and its subsequent repair and recycling according to present guideline
☐ Repair or Refurbishment of qualified consumer equipment[33], and resulting recycling and final disposition according to present guideline</td></tr>
<tr><td colspan="3">7. Is evidence attached from the Basel Convention National Reporting database indicating that all countries concerned in this transport consider all equipment in this shipment to be non-waste? YES ☐ NO ☐</td></tr>
<tr><td colspan="3">8. Is evidence attached that this exporter is pre-listed in the Basel Convention National Reporting database by the exporting national government as being approved for purposes of this transport? YES ☐ NO ☐</td></tr>
<tr><td colspan="3">9. Is evidence attached that the importing facility is pre-listed by the importing country in the Basel Convention National Reporting database as approved for the purpose of this transport? YES ☐ NO ☐</td></tr>
</table>

[31] Exporter is the natural or legal person, located in the country of export, that wishes to export qualified consumer electronics for repair or refurbishment, or equipment for professional use for failure analysis, repair or refurbishment in accordance with conditions in the *Responsible Guideline*.

[32] Equipment that is designed to be used solely by professional users and is not consumer electronics, such as specialty equipment used in the professional fields of medicine, aviation, and science. Equipment that is likely to be used by private households, or by private households and professional users, is not equipment for professional use.

[33] Used electrical and electronic equipment destined for repair or refurbishment, other than equipment for professional use, if its transboundary movement meets all conditions in the *Responsible Guideline*, and if the equipment does not contain or consist of cathode ray tubes (CRTs) or intentional inputs of polychlorinated biphenyls (PCBs), mercury, asbestos, flammable gases or liquids, or ozone-depleting substances.

10. If shipment contains qualifed consumer equipment, is evidence attached that each unit of equipment has been evaluated and determined not to contain or consist of cathode ray tubes (CRTs), mercury, asbestos, polychlorinated biphenyls (PCBs), flammable gases or ozone-depleting substances? YES ☐ NO ☐

11. Is a description of each unit of used equipment, including type of equipment, name of manufacturer, year of production and the quantify of each type of equipment attached (#15 below)? YES ☐ NO ☐

12. Is a copy of the invoice or agreement between exporter and importing facility relating to sale and/or transfer of used equipment for stated purpose attached? YES ☐ NO ☐

13. **Declaration by the exporter:**

I declare all of the following and that I am authorized to represent my company as it pertains to this shipment:

i. The exporting and importing countries are all registered in the Basel Convention National Reporting database as agreeing that, subject to the conditions and qualifications noted in *The Responsible Guideline on Transboundary Movements of Used Electronic Equipment to Promote an Ethical Circular Economy under the Basel Convention*, certain specified non-functional equipment (equipment for professional use and/or qualified consumer equipment) can be considered a non-waste.

ii. None of the qualified consumer equipment, if any, contains or consists of cathode ray tubes (CRTs) or intentional inputs of polychlorinated biphenyls (PCBs), mercury, asbestos, flammable liquids or gases or ozone-depleting substances;

iii. All units of equipment in this shipment have been visually inspected prior to export and do not display any of the conditions found in paragraph 40, letters (c), (d), and (f); i.e. each unit of equipment is complete, does not show physical damage that would impair functionality, safe use, or marketability after repair, and each is deemed economically repairable[34] to restore its essential functions;

iv. A contract exists and is enforced between my company and the approved importing facility, as described in paragraph 55 (c) in the *Responsible Guideline on Transboundary Movements*, and this contract and any additional information requested will be provided by me to authorities upon request;

v. I will retain all documentation pertaining to this shipment for a period of five years from the date the transboundary movement commences;

vi. Upon request from the relevant authorities, I will make available underlying documentation (including evidence of final disposition of unrepaired equipment, components, or hazardous residual materials) that can be used to verify these statements and compliance to applicable conditions in *The Responsible Guideline on Transboundary Movements of Used Electronic Equipment to Promote an Ethical Circular Economy under the Basel Convention*; and

vii. The above information is complete and accurate to the best of my knowledge.

Printed name: Position:

Signature: Date:

14. Declaration by person who ensured all equipment in this shipment destined for failure analysis, repair and refurbishment has been evaluated prior to export & determined to meet conditions for this shipment (if different from exporter)

Name of Company:

Responsible person & position:

Address (including country):

Tel:
Fax:
E-mail:

[34] Economically repairable means the cost of repair is less than the worth of the fully functional equipment following repair.

15. Description of each item in shipment, including components if separate (Attach additional pages with details, if needed)					
Name of each type of equipment[35]	**Name of the manufacturer (if available)**	**Identification number (e.g. serial #, UPC or bar code)**	**Year of production (if available)**	**Type & date of functionality testing performed**	**Results of tests (e.g. indication of functionality or indication of defective parts and defects)**
Add additional pages if needed for itemizing each unit in shipment					

[35] Identify the names of the type of equipment, such as computer tower, laptop, monitor, printer, TV, stereo music equipment, fan, appliance (name) etc.

Appendix IV

Abbreviations and Acronyms

BAN	Basel Action Network
BFR	brominated flame retardant
CFC	chlorofluorocarbon
CMR	Convention Relative au Contrat de Transport International de Marchandises par Route (Convention on the Contract for the International Carriage of Goods by Road)
COP	Conference of the Parties
CRT	cathode ray tube
EC	European Community
ESM	environmentally sound management
EU	European Union
HS	Harmonized Commodity Description and Coding System ("Harmonized System" for short) (developed by WCO)
ILO	International Labour Organization
kg	kilogram
LCD	liquid crystal display
mg	milligram
MPPI	Mobile Phone Partnership Initiative
OECD	Organisation for Economic Co-operation and Development
OHS	occupational health and safety
OHSAS	occupational health and safety assessment series
PACE	Partnership for Action on Computing Equipment
PBBs	polybrominated biphenyls
PC	personal computer
PCBs	polychlorinated biphenyls
PCNs	polychlorinated naphthalenes
PCTs	polychlorinated terphenyls
PFAs	per- and polyfluoroalkyl substances
POPs	persistent organic pollutants
PVC	polyvinyl chloride
RoHS	Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS Directive)
StEP	Solving the e-waste problem (international initiative)
UNECE	United Nations Economic Commission for Europe
UNEP	United Nations Environment Programme (former name of UN Environment)
UNE	United Nations Environment
UNU	United Nations University
TCLP	Toxic Characteristic Leachate Procedure (testing protocol)
TBM	transboundary movement
WCO	World Customs Organization
WEEE	waste electrical and electronic equipment

Appendix V

Reference Materials

The present appendix contains references to information on functionality testing for certain categories of used equipment, hazardous and non-hazardous equipment and hazardous components that can be found in such equipment, and information regarding health and safety aspects of inspections.

1. Functionality testing or evaluation of electronic equipment

This section contains references to functionality tests of electrical and electronic equipment and related procedures. The examples are not meant to be exhaustive but illustrate procedures as they are applied by some Parties or recommended in other guidance documents developed under the Basel Convention. Testing procedures and protocols for other categories of used equipment are not yet available.

References from Parties

Australia

Criteria for the export and import of used electronic equipment (DEH, 2005). Available at: http://pandora.nla.gov.au/pan/51666/20050902-0000/www.deh.gov.au/settlements/publications/chemicals/hazardous-waste/electronic-paper.html

Annex B of the document contains parameters that may be used when testing the functionality of certain types of equipment.

European Union

Revised Correspondents' Guidelines No. 1 on shipments of waste electrical and electronic equipment (WEEE) (2007). Available from: http://ec.europa.eu/environment/waste/shipments/guidance.htm

Appendix 1 to these guidelines contains parameters that may be used when testing the functionality of certain types of equipment.

Malaysia

Guidelines for the classification of used electrical and electronic equipment in Malaysia. (DOE, 2008). Available at: http://www.doe.gov.my/portal/wp-content/uploads/2010/07/ECTRICAL_AND_ELECTRONIC_EQUIPMENTIN_MALAYSIA.pdf

Paragraph 7 of these guidelines contains parameters that may be used when testing functionality of certain types of equipment.

Norway

A guide for exporters of used goods, Norwegian Pollution Control Authority (2009). Available at: http://www.miljodirektoratet.no/old/klif/publikasjoner/2516/ta2516.pdf

Example images of criteria on pages 4-8 can be used when evaluating the functionality of used goods.

References from guidance documents produced under the Basel Convention

MPPI - Mobile phones

The guidance document on the environmentally sound management of used and end-of-life mobile phones adopted by the Conference of the Parties at its tenth session (UNEP/CHW.10/INF/27/Rev.1) contains a number of proposed tests on functionality for mobile phones in section 5.2.1.4.

PACE - Computing equipment

The revised guidance document on environmentally sound management of used and end-of-life computing equipment adopted at the eleventh session of the Conference of the Parties

(UNEP/CHW.11/6/Add.1/Rev.1) contains in Appendix V a set of functionality tests for used computing equipment.

PACE - Laptop batteries

The revised guidance document on environmentally sound management of used and end-of-life computing equipment that was adopted at the eleventh session of the Conference of the Parties (UNEP/CHW.11/6/Add.1/Rev.1) contains in Appendix VI a set of functionality tests for laptop batteries.

Basel Convention Regional Centre for South-East Asia (BCRC-SEA)

The annexes to the Technical Guidelines on the Reduce, Reuse, Recycle (3R) of End-of-Life Electronic Products developed by BCRC-SEA contain a number of functionality tests for different types of equipment The annexes provide for specific tests for refrigeration systems, twin-tub washing machines, automatic washing machines, TVs, audio systems and PCs. The guidelines are available from: http://www.bcrc-sea.org/?content=publication&cat=2

2. Hazardous and non-hazardous equipment and hazardous components that can be found in such equipment

Section IV of the present guideline contains information about the distinction between hazardous and non-hazardous e-waste. Additional guidance and examples of hazardous and non-hazardous equipment and on hazardous components that can be found in equipment can be found in the following reference materials:

Switzerland

The e-waste guide developed as part of the "Global Knowledge Partnerships in e-Waste Recycling" programme, initiated by the Swiss State Secretariat for Economic Affairs (SECO) and implemented by the Swiss Federal Laboratories for Materials Science and Technology (EMPA) contains a section on hazardous substances in e-waste, which is available at: http://ewasteguide.info/node/219

Sweden

See "Recycling and disposal of electronic waste – health hazards and environmental impacts", report No. 6417, March 2011, Swedish Environmental Protection Agency: http://www.naturvardsverket.se/Documents/publikationer6400/978-91-620-6417-4.pdf

3. Health and safety aspects of inspections

Section V of the present guidelines provides information for controls of transboundary movements of used equipment and e-waste. One of the issues to be taken into account when carrying out such controls is the health and safety of enforcement agents. Additional information on how to take these issues into account can be found in the following reference materials:

Standardization bodies

OHSAS 18001 Standards for Occupational Health and Safety Management Systems. The standards are available from national standards institutions, such as the British Standards Institution at: www.bsigroup.com.

International Labour Organization (ILO)

The ILO guidelines on occupational safety and health management systems (ILO-OSH 2001) are available at: http://www.ilo.org/safework/info/standards-and-instruments/WCMS_107727/lang--en/index.htm

ILO has also developed an electronic tool kit on occupational health and safety that includes standards and advice. It is available for a fee of $395 from: http://www.ohsas-18001-occupational-health-and-safety.com/ohsas-18001-kit.htm.

Basel Convention Regional Centre for South-East Asia (BCRC-SEA)

A guidance on occupational safety and health aspects specifically developed as guidance for hazardous materials/waste inspection, titled "Panduan Singkat Pengelolaan Limbah B3 Dalam Rangka Pelaksanaan Konvensi Basel - Segi Keselamatan Dalam Inspeksi Bahan Berbahaya" ("Brief guidance for hazardous waste management under the Basel Convention implementation – safety aspects in hazardous materials inspection"), was written by D. Wardhana Hasanuddin Suraadiningrat, former Senior Technical Advisor to the BCRC-SEA, in 2008. Because the guidance was prepared for the Directorate General of Customs and Excise of Indonesia, it was written in Bahasa Indonesia (Malay language) and may thus need translation. For further information, contact baseljakarta@bcrc-sea.org.

Ireland

Ireland's Health and Safety Authority provides advice through an online directory on how to develop an occupational health and safety (OHS) management system for a number of different occupations and industries. While waste management is not yet included in the directory, the site contains some useful videos covering elements of an OHS system (as per Irish legislation) and risk assessment, which can be viewed at:

http://vimeo.com/19383449 (on the online system)

http://vimeo.com/19971075 (on risk assessment)

http://vimeo.com/19970831 (on safety statement)

The guidance on risk assessment and the development of safety policy and a safety statement could be adapted for use by enforcement agents.

United Kingdom of Great Britain and Northern Ireland

The United Kingdom Health and Safety Executive has developed online guidance on occupational health and safety in the waste industry specifically pertaining to waste electrical and electronic equipment. Information is available from:

http://www.hse.gov.uk/waste/index.htm

http://www.hse.gov.uk/waste/waste-electrical.htm

Appendix VI

Some Useful References

Basel Action Network, 2002. "Exporting harm: The high-tech trashing of Asia."

Basel Action Network, 2005. "The Digital Dump: Reuse Abuse in Africa"

Basel Action Network, 2016-2019. See reports of the e-Trash Transparency Project.

Basel Convention Mobile Phone Partnership Initiative (MPPI), 2009a. *Guideline on Awareness Raising-Design Considerations*. Revised and approved text, 25 March 2009.

Basel Convention Mobile Phone Partnership Initiative (MPPI), 2009b. *Guideline on the Collection of Used Mobile Phones*. Revised and approved text, 25 March 2009.

Basel Convention Mobile Phone Partnership Initiative (MPPI), 2009c. *Guideline for the Transboundary Movement of Collected Mobile Phones*. Revised and approved text, 25 March 2009.

Basel Convention Mobile Phone Partnership Initiative (MPPI), 2009d. *Guideline on the Refurbishment of Used Mobile Phones*. Revised and approved text, 25 March 2009.

Basel Convention Mobile Phone Partnership Initiative (MPPI), 2009e. *Guideline on Material Recovery and Recycling of End-of-Life Mobile Phones*. Revised and approved text, 25 March 2009.

Basel Convention Partnership on Action for Computing Equipment (PACE), 2009. *Environmentally sound management criteria recommendations*. Revised 15 March 2011.

Basel Convention Partnership on Action for Computing Equipment (PACE), 2011. *Guideline on Environmentally Sound Testing, Refurbishment and Repair of Used Computing Equipment*. Revised 10 May 2013.

Basel Convention Partnership on Action for Computing Equipment (PACE), 2011. *Guideline on Environmentally Sound Material Recovery and Recycling of End-of-Life Computing Equipment*. Revised 10 May 2013.

Basel Convention Partnership on Action for Computing Equipment (PACE), 2011. *Guidance on Transboundary Movement (TBM) of Used and End-of-Life Computing Equipment*.

Huisman, J., 2012. "Eco-efficiency evaluation of WEEE take-back systems", in *Waste Electrical and electronic Equipment (WEEE) Handbook*, Goodship, V. and Stevels, A., eds., Woodhead Publishing.

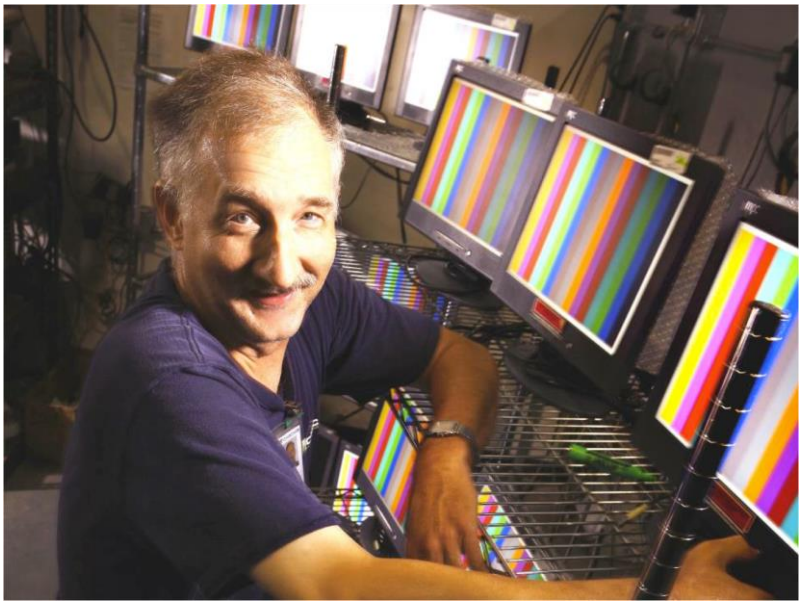
Schmidt, C.W., 2006. "Unfair trade: e-waste in Africa", *Environmental Health Perspectives*, vol. 114 No. 4, pp. A232-A235.

United Nations Economic Commission for Europe (UNECE), 2009. *UN Recommendations on the transport of dangerous goods – Model regulations, eighteenth* revised edition. Available from: http://www.unece.org/trans/danger/publi/unrec/rev18/18files_e.html.

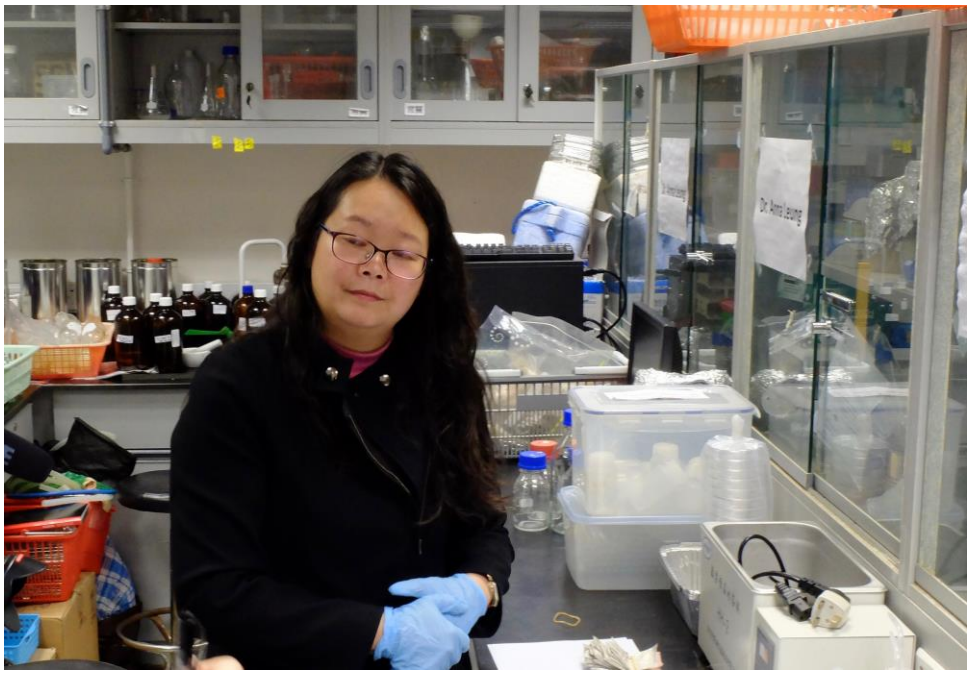
United Nations University (UNU), 2007. "2008 Review of Directive 2002/96 on Waste Electrical and Electronic Equipment (WEEE): Final report", authored by Huisman, J. et al.

Put in the other UNU studies etc.

Yu, X.et al, 2008. "E-waste recycling heavily contaminates a Chinese City with chlorinated, brominated and mixed halogenated dioxins", *Organohalogen Compounds*, vol. 70, pp. 813-816.



Technician testing LCD monitors. Copyright Cascade Asset Management, 2011



e-Waste expert/chemist Anna Leung of Hong Kong Babtist University. Copyright BAN 2016

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