

Model African State Policy on Importation of Used Electronic and Electrical Equipment (UEEE)

**Prepared by the Basel Action Network (BAN)
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1. Introduction

Currently African countries are the recipients of growing amounts of used electronic and electrical equipment (UEEE) imported by container ship, primarily from North America and Europe. Much of these imports are not re-usable and much of the equipment that is repaired contains unusable parts, all of which are discarded or burned in landfills, both informal and formal. Still other equipment is functional but maybe of such an age and condition that it quickly becomes waste in the recipient country.

The environmental and human health impacts from such imports are significant and a great cause for concern. Further, many African nations as Parties to the Basel Convention are obliged to control these imports when they are deemed as a “hazardous or other waste” under the Basel Convention. Those African countries which have ratified the Bamako Convention likewise are obliged to prevent such hazardous wastes, even more broadly defined, from being imported into the continent of Africa.

However, to date such imports have not for the most part been controlled in accordance with even the Basel Convention or Bamako Convention obligations even though much electronic waste is clearly hazardous under these two Conventions. Further, even when the UEEE is not defined as hazardous waste under the Basel or Bamako Conventions, it may be necessary to apply new definitions and additional requirements to control non-functional wastes, nuisance waste or near-end-of-life wastes. It has become clear that African countries must move rapidly to implement such controls both to achieve legal compliance and most importantly to protect their environment and their public's health.

2. Basel Convention Application

First, it is necessary to review the applicability of the Basel Convention to UEEE. Fortunately, much excellent work has been done in this regard. Diligent efforts have been carried out by the government of Australia and also by the Mobile Phone Partnership Initiative (MPPI) within the Basel Convention Partnership programs among others. While the latter work was confined to application to mobile phones, the developed policies are easily transferable to all UEEE.

The scope of the Basel Convention requires dual satisfaction of both the definition of waste and of the definition of hazardousness. We will take each of these in turn starting in this case with hazardousness.

3. Hazardous or Not?

Australia has examined in depth the Basel Convention annexes in relation to the known UEEE constituents. Their Annex A list is an excellent representation of the Basel Annexes I and III as they relate to UEEE. As can be seen from this list, virtually all non-dismantled UEEE will qualify as a Basel listed material *if* it can be considered a waste.

Policy Recommendation: Given the overwhelming likelihood of hazard in the current generation of EEE and for the sake of ease in implementation, it is proposed that that all UEEE is considered hazardous until such time as UEEE is routinely free of hazardous substances.

4. Waste or Not

The next question regarding Basel applicability has to do with the question of whether the UEEE in question is to be considered a waste or not. The analysis undertaken by the MPPI concluded that material destined for recycling and disposal is clearly a waste as defined by the Basel Convention. The area that needed further examination by the MPPI in its working group 2.1, had to do with the question of exports claimed to be destined for *re-use directly or re-use following repair*. This sub-sector of UEEE export is probably the most important for Africa as this is primarily the justification used for the exports currently arriving.

Material that is able to be directly re-used and *will be* directly re-used (without having to first be repaired) clearly falls outside of the scope of the definition of waste under the Convention. However a simple claim that the material in question is fully functional cannot be relied upon.

Policy Recommendation: Diligent enforcement of the Basel Convention requires that testing is required and that certified proof of functionality prior to export, and present upon arrival, is assured.

5. The “Export for Repair” Question

The question of exports for re-use following repair in the recipient country was seen as being more complex. The Parties present in the MPPI project group 2.1 recognized that exports of material that can be re-used following repair in the importing country are in fact both an export for direct re-use and at the same time likely to involve export for disposal/recycling. This is due to the fact that repair generally involves replacing a part. If the replaced part is in fact hazardous then this export falls under the definition of transboundary movement of hazardous waste under the Convention according to the Parties present in the MPPI working group 2.1.

Without such a determination the Parties recognized the very serious loophole that would be opened for all manner of exports of material if such exports were exempt from the Basel Convention rules. With a simple claim by an exporter that the shipment was destined to be repaired and therefore not a waste, non-functioning material that either would not be repairable or its repair would involve a significant transfer of hazardous waste to the recipient country could be exported without controls.

The Basel Convention therefore was deemed to apply to exports for repair as long as such repair was likely to involve the disposal/recycling of a hazardous part (e.g. brominated flame retardant plastics, lead-tin soldered circuit board, or cathode ray

tube). To illustrate the necessary control procedure required by the Basel Convention, the MPPI produced a Decision Tree (see Annex E below) which can be applied to all UEEE by simply replacing the word “phone” with UEEE.¹

However recently, policymakers have seen fit to go beyond this strict legal reading of the intent and obligations of the Convention. A recent proposal drafted in the recast of the WEEE directive in the European Union (EU) requires that all poorly packaged equipment or equipment that is not fully functional will be considered as hazardous waste. For the sake of harmony with the EU and ease of enforcement it would be prudent for African states to likewise draw the line at full functionality.

Policy Recommendation: All imported UEEE that is not fully functional or is poorly packaged should be considered as hazardous waste.

6. The Bamako Convention

For those countries that have ratified the Bamako Convention (administered by the African Union), all of the above rules for the Basel Convention will apply, except that the definitions of hazardous waste are even more stringent. And Bamako calls for a strict prohibition on importation of hazardous waste. Ratifying the Bamako Convention and communicating this to the African Union as well as the Secretariat of the Basel Convention will ensure that all Basel Parties will be forced to respect the import prohibition.

Policy Recommendation: All African countries should ratify the Bamako Convention and communicate this decision directly to the African Union and the Basel Secretariat at their earliest opportunity.

7. Implementation of the Basel Ban Amendment for WEEE and other Hazardous Wastes

African countries such as Egypt, Tunisia, Gambia, Ghana, Liberia, and Nigeria, have already ratified the Basel Ban Amendment (1995) which prohibits all exports of hazardous wastes from the OECD/EU/Liechtenstein (Annex VII) group of countries, to all other countries. This ban is not in strict international legal force as yet, but has a great deal of force when implemented nationally. Already 32 of the 39 countries to which the export ban applies have put this ban into their national law. Ratification of this agreement by non-Annex VII countries has a similar potent effect as that of the Bamako Ratification, as it signals to all Basel Convention Parties the country’s prohibition on imports of hazardous wastes which must be respected by all Basel Parties. Thus all African countries should ratify the Basel Ban Amendment at the earliest opportunity.

Policy Recommendation: It is proposed that all imports of UEEE that qualify as WEEE under the Basel Convention or Bamako Convention and national definitions of exporting or importing countries, be prohibited. All African countries should ratify the Basel Ban Amendment at the earliest opportunity.

8. National Considerations

¹ Note that the MPPI Work Group 2.1 also proposed a voluntary approach for countries that did not consider used phones destined for repair to be under the Basel Convention. This approach is unenforceable, and proposed by industry as a means to avoid Basel rules. This approach voluntary approach is to be avoided.

Under the Basel Convention (Article 1.1.b), any country can define hazardous waste nationally in ways that go beyond the definitions found in the Basel Convention and its Annexes. Countries like Australia for example have recognized that apart from mere functionality, UEEE must be qualified by how re-usable it might be based on other considerations (e.g. packaging, functionality or age). This is absolutely essential for African states as well, because the Basel Convention cannot legally apply in all cases based on the definitions found in its Annexes. Article 1.1.b, provides the safety net wherein additional wastes which some may consider fall into a gray area (e.g. exports for repair) or are definitely non-wastes, such as functional material with a short-life span, can be added to the national definition of what constitutes a hazardous waste. It is vital however that in accordance with the Bamako and Basel Conventions all such national definitions need to be communicated to the Basel Secretariat which will in turn disseminate the information to all Parties. In this way, all Parties are obliged to respect the national bans and definitions.

Policy Recommendation: African countries should augment their definitions of hazardous waste and report these to the Basel Secretariat. New definitions should include equipment that fails full functionality and packaging requirements, as well as equipment older than a certain age to ensure that equipment imported for direct reuse will have a long useful life ahead of it and will not quickly become waste.

9. Testing and Labeling Required Prior to Export

For imports claiming to be fully functional and of good condition and age, it is vital that the exporter ensure that this is the case prior to export. It is essential that the certification of these requirements be the responsibility of the exporter and must take place *prior to export* and in a transparent way so that the imported UEEE is fully labeled and identified as having been tested and guaranteed to meet the import requirements. This is fully consistent with the new rule proposed in Annex I of the new EU WEEE directive (see Annex D).

As an example of the type of testing required it is useful to see the Australian criteria (Annex B) for testing as well as the requirements outlined in the MPPI Guidance Document (Annex C). Additionally it will be important to view the guidance document produced by the European Commission in this regard (Annex D). The European Commission has also created a guidance document for distinguishing waste from non-waste electronics. Without such testing, customs agents and police will have no way of knowing whether the claims of functionality are true. For this reason any trade without certification and labeling of the exports must be considered illegal traffic due to the fault of the exporter and will be required to be returned in accordance with Article 9 of the Basel Convention.

In (Annex F) below, an example of a new label is featured which should be required by the African country to be attached to each UEEE item to allow entry into the country. This can be adjusted to better reflect the aforementioned annexes and to the needs of the importing country. Hopefully such a label can be harmonized with EU countries which will likely have identical law and policy. The exporter will check the applicable tests first. All applicable tests must be passed so that only double check marks (in both columns) are possible. Labels should be tied or adhered to the equipment and additionally must be posted in an online database created by the importing country that can be accessed by customs officials. This database interactive website can be created between EU and African States.

10. Registering legitimate UEEE importers

It is vital also that the African state create a permitting and registration system for legitimate resellers and other importers (e.g. charities) of UEEE. The criteria for the permit can be that they receive training on the importation rules for UEEE, have an established address and facility, are a registered business or charity, and adhere to the government plan for e-waste management for wastes arising from their business (not the subject of this paper). No unregistered importer can be a consignee for imported UEEE and should be prosecuted for violation of the import rules.

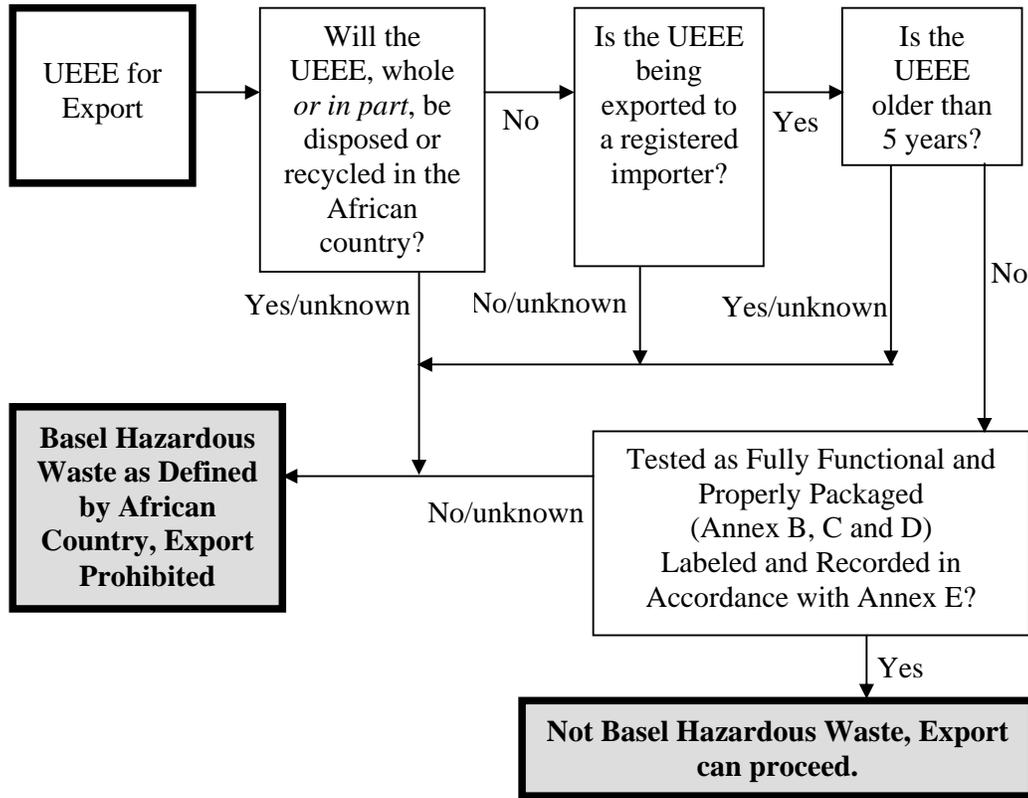
Policy Recommendation: African countries are encouraged to register all legitimate resellers and other importers of UEEE and only allow imports to them.

11. Policy Summary and Decision Trees

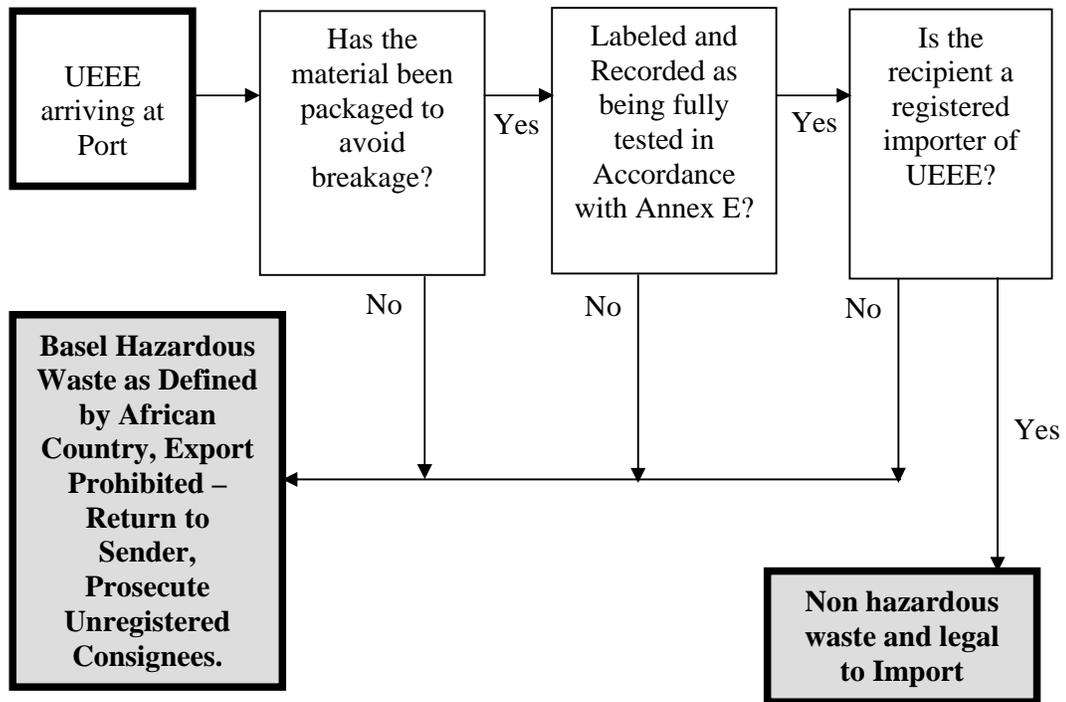
All imports of UEEE will be considered to be hazardous waste in African countries unless they are tested, certified and labeled to meet criteria of full functionality, proper age, and proper packaging prior to exportation. Only registered importers are allowed to import WEEE.

- However, even if fully functional, UEEE, if disposed or recycled, all or in part, is also considered a hazardous waste.
- All imports of hazardous waste will be prohibited.
- All African states that have not already done so should seek ratification of the Basel Convention, the Bamako Convention and the Basel Ban Amendment.

Decision Tree for Exporters of UEEE to Africa



Decision Tree for Importation of UEEE to Africa



ANNEX A

Hazardous Constituents

Most used electronic equipment will contain hazardous components (see below). This waste is therefore assumed to be hazardous waste unless it can be shown that it does not contain any of the following:

- lead-containing glass from cathode ray tubes (CRTs) and imaging lenses, which are assigned to Annex VIII entries A1180 or A2010 "glass from cathode ray tubes and other activated glass". This waste also belongs to category Y31 in Annex I, Lead; lead compounds and is likely to possess hazard characteristics H6.1, H11, H12 and H13.
- nickel-cadmium batteries, which are assigned to Annex VIII entry A1170 "unsorted waste batteries...". This waste also belongs to category Y26 in Annex I, cadmium; cadmium compounds and is likely to possess hazard characteristics H6.1, H11, H12 and H13.
- selenium drums, which are assigned to Annex VIII entry A1020 "selenium; selenium compounds". This waste also belongs to category Y25 in Annex I, Selenium; selenium compounds and is likely to possess hazard characteristics H6.1, H11, H12 and H13.
- printed circuit boards, which are assigned to Annex VIII entry A1180 "waste electronic and electrical assemblies.....", and entry A1020 "antimony; antimony compounds" and "beryllium; beryllium compounds". These assemblies contain brominated compounds and antimony oxides as flame retardants, lead in solder as well as beryllium in copper alloy connectors. They also belong in Annex I, to categories Y31, lead; lead compounds, Y20, beryllium, beryllium compounds and Y27 antimony, antimony compounds and Y45, organohalogen compounds other than substances referred to elsewhere in Annex I. They are likely to possess hazard characteristics H6.1, H11, H12 and H13.
- fluorescent tubes and backlight lamps from Liquid Crystal Displays (LCD), which contain mercury and are assigned to Annex VIII entry A1030 "mercury; mercury compounds". This waste also belongs to category Y29 in Annex I, Mercury; mercury compounds and is likely to possess hazard characteristics H6.1, H11, H12 and H13.
- plastic components containing Brominated Flame Retardants (BFRs) are assigned to 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." This waste also belongs to category Y45 in Annex I, Organohalogen compounds other than substances referred to elsewhere in Annex I, and to category Y27 Antimony, antimony compounds, and is likely to possess hazard characteristics H6.1, H11, H12 and H13.

ANNEX B

FAULTS INDICATING ELECTRONIC EQUIPMENT IS WASTE

Electronic equipment is defined as waste if it has any of the following:

- 1. A defect that materially affects its functionality.**
For example it does not:
 - a. power up; or
 - b. perform BIOS or internal set-up routines or self-checks fail; or
 - c. have a functioning motherboard; or
 - d. communicate with the host; or
 - e. print/scan/copy a test page or the page is not identifiable or readable or is blurred or lined; or
 - f. read, write or record/burn.

- 2. Physical damage that impairs its functionality or safety, as defined in relevant standards.**
Physical damage includes, but is not limited to:
 - a. a screen that has physical damage, such as burn marks, or is broken, cracked, heavily scratched or marked, or that materially distorts image quality; or
 - b. a signal (input) cable has been cut off or cannot be easily replaced without recourse to opening the case.

- 3. A faulty Hard Disk Drive and a faulty RAM and a faulty Video Card.**

- 4. Batteries made with lead, mercury or cadmium or batteries containing hazardous liquid cathodes that are unable to be charged or to hold power; or**

- 5. Insufficient packaging to protect it from damage during transportation, loading and unloading operations.**

Annex C

MPPI Mobile Phone Testing Procedures

Testing and Labelling

The Evaluation and/or Testing and Labelling decision point, whether functionality has been tested or not, may include evaluation and/or testing for defects that materially affect the mobile phones functionality, such as whether the device powers up, and or whether it performs an internal set-up routine and/or self-checks, and/or whether it communicates; physical damage that impairs functionality or safety may include but is not limited to whether the mobile phone screen is broken, cracked, heavily scratched or marked, or that the image is distorted. Used mobile phones destined for re-use, including repair, refurbishment or upgrading should be packaged in an appropriate protective manner.

Batteries that are unable to be charged or to hold power and the absence of sufficient packaging to protect the mobile phones from damage may also be considered in determining whether collected phones are being managed for re-use. The functionality evaluation and/or test should determine whether the collected mobile phones are suitable for reuse as is, require repair or refurbishment before reuse, or whether the used mobile phones are suitable only for the material recovery and recycling.

For testing the functionality of a collected mobile phone the test numbers can be applied². At a minimum the following basic tests should be applied as an efficient minimum test procedure:

“Air” or “Ping” (automatic phone response) test. The tester is to dial the above-mentioned number, which will then “ping” a network and receive a customer service response from the nearest network. In North America the number is “611”. In other locations other numbers are used. If a response is received then it can be assumed that the mobile phone is essentially functional.

² Test-numbers of other regions may be available

“Loop back test”. The tester to blow or speak into the handset, whilst on a call, to determine whether or not the microphone and speaker are functional.

Microphone and speaker test. The tester is to blow or speak into the microphone and listen to see if the same input sound can be heard out of the speaker. If this is working, then the sound system of the phone can be considered as functional.

Screen and keypad test: The tester is to turn on the phone so that the screen is displayed and the keypad is punched to show that it is functioning for each key. If the numbers appear on the screen for each key then the screen and keypad can be considered as functional.

Battery test: Battery should be charged (either through the phone it accompanies or by using commercial charging and measuring equipment) and tested with a volt meter to determine whether or not the battery is functional and hold an appropriate charge³. The battery will be tested to guarantee accepting and holding a charge and operate correctly under load of standard mobile phone. In addition, the test will include a guarantee that the battery protection circuit is present and functioning properly. All batteries tested for reuse possibilities will only be OEM product and not created from used or recycled power.

Annex D

Correspondent’s Guidelines:

³ Appropriate charge, according to refurbishment and battery recycling industry, is 80%. Once the battery has been charged (either through the phone it accompanies, or by using commercial charging and measuring equipment) it should be tested with a voltmeter to determine whether or not the battery is functional and hold an 80% charge. Another criterion to check batteries is to check for the proper functioning on the internal protection circuit, which protects the Li-Ion cell from operating outside the recommended ranges. This protection circuit is included inside all OEM manufactured batteries and minimizes the possibility of any type of cell meltdown or explosion. This will ensure that the customer gets good value and will help ensure that importing countries do not end up getting short-life batteries.

Proposed Annex for Recast WEEE Directive:

ANNEX I

Minimum monitoring requirements for shipments of WEEE

1. In order to distinguish between electrical and electronic equipment and WEEE, where the holder of the object claims that he intends to ship or is shipping used electrical and electronic equipment and not WEEE, Member State authorities shall request the following to back up this claim:
 - a) a copy of the invoice and contract relating to the sale and/or transfer of ownership of the electrical and electronic equipment which states that the equipment is for direct re-use and fully functional;
 - b) evidence of evaluation or testing in the form of a copy of the records (certificate of testing, proof of functionality) on every item within the consignment and a protocol containing all record information according to point 2;
 - c) a declaration made by the holder who arranges the transport of the electrical and electronic equipment that none of the material or equipment within the consignment is waste as defined by Article 3(1) of Directive 2008/xx/EC on waste, and
 - d) sufficient packaging to protect the shipped products from damage during transportation, loading and unloading.
2. In order to demonstrate that the items being shipped are used electrical and electronic equipment rather than WEEE, Member States shall require the following steps for testing and record keeping for used electrical and electronic equipment to be carried out:

Step1: Testing

- a) Functionality should be tested and hazardous substances should be evaluated. The tests that should be conducted depend on the kind of electrical and electronic equipment. For most of the used electrical and electronic equipment a functionality test of the key functions is sufficient.
- b) Results of evaluation and testing should be recorded.

Step2: Record

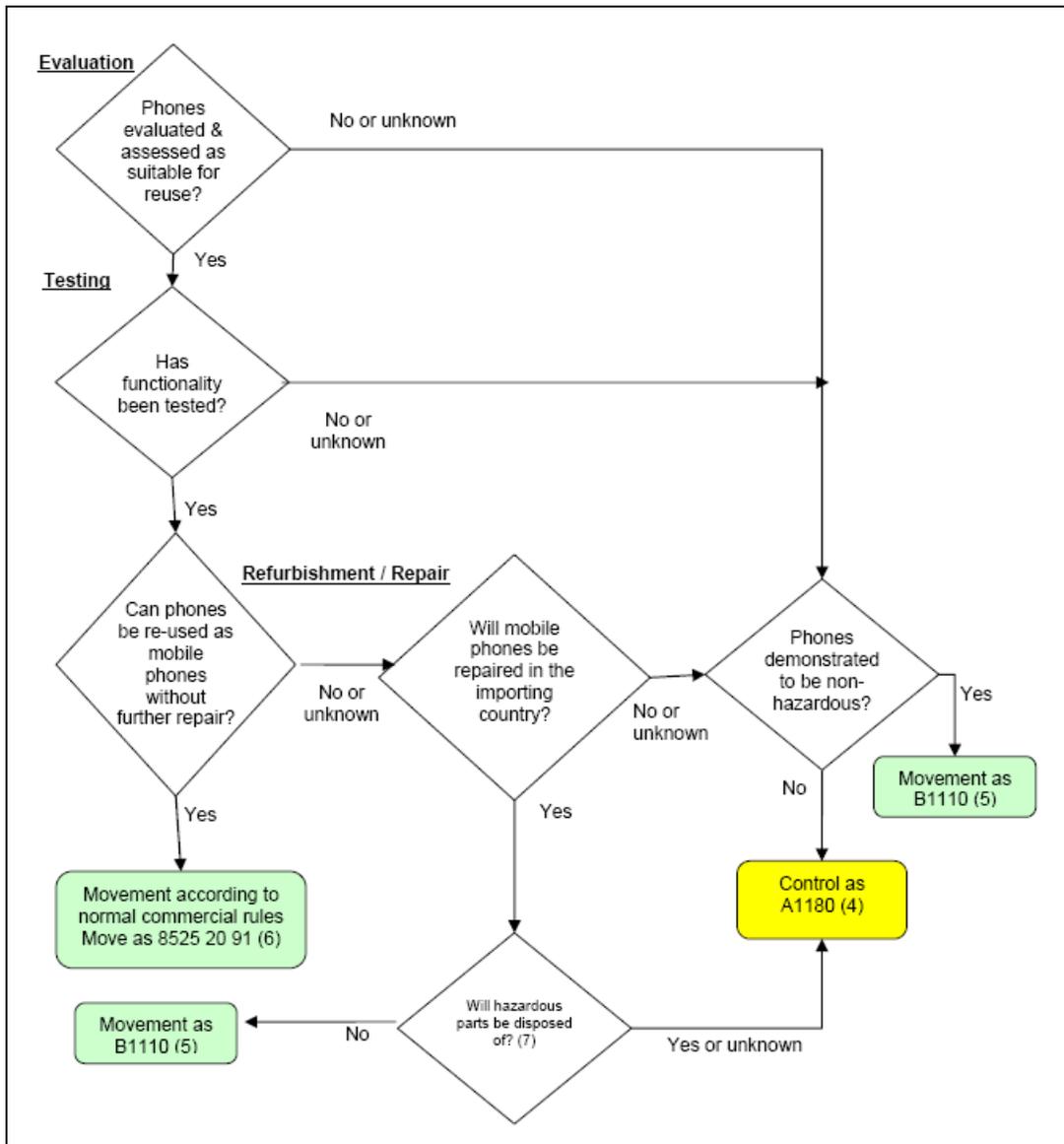
- a) The record should be fixed securely but not permanently on either the electrical and electronic equipment itself (if not packed) or on the packaging so it can be read without unpacking the equipment.
- b) The record shall contain the following information:
 - Name of item (Name of the equipment according to Annex II and category according to Annex I of Directive 20xx/xx/EC (RoHS));
 - Identification Number of the item (type no.);
 - Year of Production (if available);
 - Name and address of the company responsible for evidence of functionality;
 - Result of tests as described in step 1;
 - Kind of tests performed.
3. In addition to the document requested in point 1, every load (e. g. shipping container, lorry) of used electrical and electronic equipment should be accompanied by a:
 - a) CMR document,
 - b) declaration of the liable person on its responsibility.
4. In the absence of appropriate documentation required in point 1 and 3 and packaging, Member State authorities shall presume that an item is hazardous WEEE and presume that the load comprises an illegal shipment. In these circumstances the relevant competent authorities will be informed and the load will be dealt with in accordance with Articles 24 and 25 of the Waste Shipment Regulation. In the majority of cases those responsible for the shipment will have to take back the waste to the country of dispatch at their own expense and may be liable to a criminal sanction. In those Member States where the burden is on the state authorities to prove the items are WEEE rather than electrical and electronic equipment, absence of the appropriate documentation and packaging is likely to lead to significant delays to the onward transport of the waste whilst the necessary investigations are carried out to establish the status of the items being shipped.

Annex E

TESTING CERTIFICATION LABEL <i>Required for Importation of Used Electronic and Electrical Equipment into African State</i>		
Test	Applicable?	Pass?
All Equipment		
1. Equipment is individually packaged to adequately ensure against breakage in shipping.	✓	
2. Age Determined to be 6 years or less?	✓	
3. Equipment Powers Up?	✓	
Computers and Peripherals		
A. Performs BIOS or Internal Set-up routines and Passes Self Checks?		
B. Functioning Motherboard?		
C. Communicates with Host?		
D. Print/Scan/Copies a Test Page or the page is identifiable, readable and is not blurred or lined?		
E. Equipment reads, writes, records/burns properly?		
F. Does not have a physically damaged screen, (e.g. with burn marks, is broken/cracked, scratched, marked or distors image quality)?		
G. Has a signal (input) cable that has not been cut-off or can be easily replaced without recourse to opening case?		
H. Has a fully functional RAM, video or hard disk drive?		
I. Batteries hold at least an 80% charge?		
Mobile Phones		
J. Performs Internal set-up routines and Passes Self Checks?		
K. Does not have a physically damaged screen (e.g. with burn marks, is broken/cracked, scratched, marked or distors image quality)?	✓	
L. Batteries hold at least an 80% charge?		
M. Passes "Air" or "Ping" (automatic phone response) test?	✓	
N. Passes Loop-back Test?	✓	
O. Fully Functioning Microphone and Speaker?	✓	
P. Screen and Keypad fully functional?	✓	

Annex F

Decision Tree from MPPI



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