



Regional Workshop on Enhancing Capacities for the Environmentally Sound Management of Waste Electrical and Electronic Equipment through the Regional Delivery in Africa

**Lagos, Nigeria
20-23 October, 2015**

Report of the Workshop



I. BACKGROUND/INTRODUCTION

1. The Secretariat of the Basel Convention organized the Regional workshop on enhancing capacities for the environmentally sound management (ESM) of waste electrical and electronic equipment (e-waste) through the regional delivery in Africa, 20-23 October 2015, Lagos, Nigeria. The workshop was co-organized in close cooperation with the Basel Convention Coordinating Centre for the African Region (BCCC-Africa) in Nigeria and the African Union Commission (AUC). The venue of the workshop was the Golden Tulip Hotel, Lagos, Nigeria.
2. The workshop's main objectives were to enhance participants' understanding of the environmentally sound management (ESM) of e-waste using technical guidelines developed under the Basel Convention and the Partnership for Action on Computing Equipment (PACE) as tools, as well as to provide opportunities for information exchange and networking among Parties, experts, and other stakeholders. In addition, the workshop aimed at providing participants the opportunity to deliberate on best applicable models for achieving ESM of used electrical and electronic equipment and life-waste at national and regional levels, as well as on the transboundary movements of e-wastes.

II. SPONSORS

3. The workshop was sponsored by:
 - Partnership for Action on Computing Equipment (PACE) , a flagship multi-stakeholder partnership of the Basel Convention,
 - Basel Rotterdam Stockholm (BRS) Secretariat
 - European Union (EU), and
 - African Union Commission (AUC).

III. OBJECTIVES

4. The specific objectives of the workshop were:
 - (i) To enhance participants' understanding of the environmentally sound management (ESM) of e-waste using technical guidelines developed under the Basel Convention and PACE as tools.
 - (ii) To obtain inputs from participants towards the needs, challenges and opportunities for the ESM of WEEE in the African region.
 - (iii) To provide opportunities for information exchange and networking among experts, representatives of Parties and other stakeholders.
 - (iv) To provide participants with the opportunity to deliberate on best applicable models for achieving ESM of used and end-of-life (EoL) electrical and electronic equipment at national, sub-regional, regional and international levels, as well as on the transboundary movements of e-wastes.

IV. STRUCTURE OF THE WORKSHOP

5. The workshop activities consisted primarily of three components:
 - (i) Lectures delivered by experts from various fields related to the environmentally sound management of waste electrical and electronic equipment (WEEE).
 - (ii) Group activities designed to build skills in the specific use of the PACE guidelines.
 - (iii) Field visits to some major e-waste processing sites within the city of Lagos.

V. PARTICIPANTS

6. A total of 100 participants registered for the workshop. These included:
 - Representative of the Honourable Minister of Environment of Nigeria
 - Staff of the BRS Secretariat of UNEP
 - The Executive Director and some Research Associates of the BCCC-Africa in Nigeria
 - The Executive Directors of the Basel Convention Regional Centres in South Africa, Egypt and Senegal
 - Representative of the Executive Director of BCRC-AP in China
 - Several resource persons from within and outside Africa

- Representatives of the African Union Commission
- Representative of IMPEL of the European Union
- Representatives of the ECOWAS Secretariat in Nigeria
- Representative of the German Consular General in Nigeria
- Basel Convention Focal Points and other national representatives of about 32 selected African countries
- Representatives from some international organisations based in Nigeria (e.g. World Bank, UNIDO, ILO)
- Representative of the Alliance of Original Equipment Manufacturers (OEMs) for e-waste solution in Africa.
- Representatives of the Federal Ministry of Environment (FMEnv) of Nigeria
- Director-General of the National Environmental Standards and Regulations Enforcement Agency (NESREA) of Nigeria
- Representatives of several other governmental environmental regulatory agencies in Nigeria (e.g., Lagos Waste Management Authority, LAWMA; Lagos State Environmental Protection Agency, LASEPA; etc)
- Representatives of several Non-Governmental Organisations (NGOs) and environmental associations from Nigeria and other African countries
- Representatives of Environmental Consultancy Companies in Nigeria
- Representatives of the print and electronic media charged with environmental matters in Nigeria
- Representatives of the Association of Vendors of Used Computers and Allied Products of Nigeria

VI. SUMMARY OF ISSUES, OBSERVATIONS, CONCLUSIONS AND RECOMMENDATIONS

7. The following are the summary of the main issues discussed, the observations, conclusions and recommendations from the workshop:

7.1.0 E-Waste as a Resource

7.1.1 E-waste should not be seen only as hazardous material, but also as a valuable socio-economic resource that needs to be fully exploited for the benefit of Africa's governments, entrepreneurs and citizens.

7.1.2 African governments and entrepreneurs must lead the initiative to develop indigenous capacities for fully exploiting the benefits derivable from ESM of e-waste. African countries should not depend solely on foreign support to achieve this.

7.1.3 Lack of technical, financial and human resources, as well as political will hamper implementation of e-waste resource recovery in many African countries.

7.1.4 The concept of e-waste as a resource which should be tapped in an environmentally sound manner should be integrated into national policies on the environment.

7.2.0 E-Waste as Hazardous Material

7.2.1 E-wastes are hazardous and pose high risks to humans and the environment if not properly managed.

7.2.2 By implementing ESM, the hazards to human health and the environment associated with E-waste can be mitigated.

7.2.3 There is still a significant lack of awareness among the general population about the hazardous nature of improperly managed e-wastes.

7.2.4 Lack of regulatory infrastructure, technical, financial and human resources also hinders the implementation of e-waste management for hazard reduction.

7.2.5 Due to the fact that e-waste is usually shipped from developed countries to African countries, the relevant Basel Convention provisions on transboundary movement (TBM) and the Prior Informed Consent (PIC) principle must be fully enforced to ensure that OEMs and governments of exporting and importing countries are fully involved in supporting transboundary waste movement, and providing appropriate technologies for the ESM of such wastes in importing countries which normally lack the infrastructure for the ESM of e-waste. Mandatory extended producer responsibility (EPR) or take-back scheme should be effectively implemented by OEMs and other investors in ESM of e-waste in African countries. Governments in partnership with OEMs and other investors should develop the best sustainable business models for e-waste, based on life cycle approach.

7.2.6 African countries should continue to work closely with the various international agencies and donors to achieve ESM of e-waste. Issues of the need for ESM of e-waste should be prominently elaborated in national policies on the environment.

7.3.0 Trans-Boundary Movement (TBM)

7.3.1 TBM of e-waste is still a significant problem for Africa, as evident from recent incidents of illegal shipments of e-wastes to several countries such as Nigeria, Ghana, Tanzania, Egypt, and Senegal. Domestication of Basel Convention and Bamako Convention into national legislation in African countries should be accorded high priority by African governments. Continued global attention and action are thus required to achieve eradication of illegal TBM. Consequently, the EU- African Network on the control of illegal import of e-waste should be invigorated and supported as a good example of north-south cooperation in providing solutions to global problem of e-waste. Furthermore, the Bamako Convention in its present form prohibits importation of hazardous waste, including e-waste, into Africa. It also prohibits intra-regional importation of e-waste among African countries. This constitutes a barrier to free trade. Hence, there is the need to review the Bamako Convention, if regional solution to e-waste problem is to be achieved.

7.3.2 Effective control of TBM to and within African countries requires the cooperation of all African countries. In this respect, it is recommended to re-activate the dormant African continental “dump-watch” network established in the 1980s, supported by appropriate international and regional agencies.

7.4.0 Regulations / Legislation / Enforcement

7.4.1 African governments should, as a matter of priority, formulate and implement e-waste management-related national policies. In this respect, awareness programmes should be conducted at the highest levels of government legislative, judicial and executive organs.

7.4.2 Most African countries have not domesticated the various chemicals and waste-related multilateral environmental agreements (MEAs) to which they are parties. The African Union Commission (AUC), regional organisations and NGOs should prevail on such governments to do so.

7.4.3 Near EoL and used electronic equipment are not regulated under the Basel and Bamako conventions. It should be recognised that such equipment constitute a significant source of local contribution to the e-waste stream.

7.4.4 Enforcement of some provisions of the Basel Convention is still faced with challenges. For example, it is still difficult for some enforcement agencies to clearly distinguish between waste and non-waste for some category of equipment.

7.4.5 In addition to other sources of international funding, African countries are encouraged to actively continue to explore the window of funding opportunity provided by the Quick Start Programme (QSP) Trust Fund of SAICM for the purpose of strengthening and enhancing sustainable institutional capacities of government to develop, adopt, monitor and enforce environmentally sound policy regulations and legislation.

7.5.0 E-Waste Recycling

7.5.1 Pilot national and regional projects on sustainable collection, repair/refurbishment, dismantling and recycling, with capacity building component for Africans should be implemented. This should be in partnership with the OEMs and funding support from UNEP, development partners, including African Development Bank, World Bank, with involvement of Basel Regional and Coordinating Centres.

7.5.2 Where possible, sub-regional nodes of major recycling facilities should be established in African countries with large volumes of e-waste generation. Such centres should service nearby smaller countries in that sub-region including Small Island Developing States (SIDS); that generate smaller quantities.

7.5.3 The informal sector is an important group that is presently involved in the collection, refurbishing, recovery and recycling of near EoL electronic equipment and E-wastes. This group has contributed significantly to the reduction of disposed e-waste volumes despite the application of crude, unsafe and environmentally unsound techniques. Any efforts by government towards modernisation and harmonisation of the electronic waste management sector must necessarily incorporate this informal sector in order to retain their sources of livelihoods, develop/improve local technical skills and prevent social and economic disharmony in the ESM of e-wastes.

7.5.4 Recent studies have estimated brominated flame retardants (BFRs) , in particular PBDEs, in plastics/polymers of end of life computer monitors and TV sets imported from developed countries into some countries in Africa, Nigeria in particular. There is currently no adequate e-waste management, plastic separation or destruction capacity in the Africa region. Thus, what plastic/polymer quality would be needed that producers could take back?. Can the OEMs define quality standards that recycling facilities need to meet for take back? .What plastics/polymers the industry cannot take back? (e.g. BFR containing polymers?) What should Africa do with plastic/polymer the industry cannot take back?. What support could the global OEMs give that Africa can address and solve the WEEE plastic/polymer recycling and end of life management challenges?.

7.5.5 There should, however, be established, a controlled e-waste collection system that regulates the methods and points of collection of e-wastes in a manner that ensures ESM.

7.5.6 Governments should provide the necessary enabling environment to encourage and support local and foreign investors in the e-waste management business.

7.5.7 Governments, private organisations, professional bodies and international donor agencies should support the integration of local sustainable technologies for e-waste management in African countries

7.6.0 E-Waste Related Research / Assessment Studies

7.6.1 Participants commended local research efforts in some African countries on the assessment of e-waste generation rates, determination of environmental impacts of e-waste management, and development of local technologies for ESM. These can provide valuable data for awareness raising, management planning and sustainable indigenous facilities for effective waste management. Capacities for such studies should be strengthened at various national and regional levels in the continent.

7.7.0 Issues of Children, Women and Occupational Safety

7.7.1 Due to severe poverty, the illegal use of child labour, including under-aged girls, is a common practice associated with waste management in the informal sector in many African countries. Governments and NGOs need to take proactive actions to stem this practice.

7.7.2 Older women are also a vulnerable group that need to be specially protected against the harmful consequences of exposures to toxic substances from improper e-waste management.

7.7.3 Issues of occupational safety should be integrated into the ESM training of artisans and other practitioners in the informal sector of e-waste management, in order to safeguard lives and properties, and the dignity of the human person.

7.8.0 Vendors of Used EEE

7.8.1 Government regulatory agencies must develop a mutually beneficial and positive relationship with the used equipment vendors to allay the fears and current mistrust of government actions by the vendors. Government agencies must ensure that ESM can be achieved without adverse effects on the livelihoods of these vendors who are providing much needed access to affordable ICT facilities.

7.8.2 The ICT equipment producers and vendors associations in Nigeria, as well as those of other countries, should be commended for their recent willingness to partner with regulatory agencies and other stakeholders to achieve ESM of e-wastes. Participants implored the leadership of these association to ensure that this new and positive trend is sustained.

7.9.0 Original Equipment Manufacturers (OEMs)

7.9.1 Participants commended the efforts and commitment of the current four members of the OEMs (Dell, HP, Philips and Microsoft Nokia) who are currently partnering with a number of African governments in solving the e-waste management problem.

7.9.2 Other ICT equipment manufacturers are encouraged to participate actively in this laudable venture.

7.9.3 Government agencies and international organisations are urged to give the OEMs all necessary support in fostering the EPR principle.

7.10.0 Achieving the Goals of the Workshop

7.10.1 Participants commended and appreciated:

- (i) The efforts of PACE in developing the various guidelines that have been used for this training workshop,
- (ii) The efforts of the various sponsors and organisers of the training workshop, in particular, PACE, the European Union, African Union Commission, the BRS Secretariat, and the BCCC-Nigeria.

7.10.2 It is recommended that more of such workshops should be organised at national and local levels to build the required capacity amongst various stakeholders. In this regard the organisation of the second Pan Africa Forum on ESM of E-waste planned for 2016 would offer a unique regional platform in assessing progress made in implementing the Africa vision on ESM of e-waste and the call for a set of 8 priority actions on e-waste in the region by the First Pan African Forum on e-waste in 2012.

7.10.3 The various Basel Convention Regional Centres in Egypt, Senegal, and South Africa as well as the Basel Convention Coordinating Centre for the African Region (BCCC-Africa) in Nigeria were

commended and urged to continue to play pivotal roles in capacity building and technology transfer within the Africa region.

DRAFT

DAILY ACTIVITIES REPORT

DAY 1: 20 October 2015

VII. OPENING CEREMONY

8. The workshop was called to order at 9.20 a.m. by Prof. Oladele Osibanjo who welcomed participants and called the following dignitaries to the high table: Mr Mathias Kern, Senior Programme Officer, at the BRS Secretariat; Mr Lawrence C. Anukam, Director General, NESREA, Nigeria; Ms Zoe Nautre, representing the German Consul General in Nigeria; Mr. Livingstone Sindayigaya of the African Union Commission; and Mr Bayero, Director, Department of Pollution Control & Environmental Health, FMEnv, Nigeria, who represented the Honourable Minister of Environment of Nigeria.
9. Prof. Oladele Osibanjo explained the background to the organisation of the workshop, which was to familiarise practitioners in the African region with the PACE guidelines that had been developed for the management of e-waste. He itemised the objectives of the workshop (as stated above) and explained each in details. He also explained that the workshop would consist of lectures by experts, group assignments and a field trip to some locations in Lagos. He pointed out that the e-waste problem was a huge one, second only to the global climate change problem. This problem had been magnified by the ICT revolution and high consumption patterns globally.
10. Mr Mathias Kern noted that electrical and electronic equipment (EEE) have become essential components of the average person's professional and domestic life, such that it was almost now impossible to do business the way we used to do. He indicated that the volume of e-waste generation in developing countries has been projected to soon outstrip those of developed countries. Mr Kern mentioned that EEE contain many valuable resources such as precious metals that can be recycled. Such recycling activities, if carried out in a sound manner can form useful economic resource base and avoid the emissions of toxic materials. He noted that the Basel Convention has often been accused of constituting an obstacle to international trade. He pointed out that this was not so, and that the convention was instead helping to minimise hazard exposure. He thanked the government of Nigeria for hosting the workshop, the BCCC-Africa for the organisation, and the sponsors – PACE, EU and the AUC. He was pleased to see various stakeholders in attendance.
11. Ms Zoe Nature thanked the organisers for the invitation. She explained that the interest of the German government in the e-waste project arose from a prior visit to the Agbogbloshie dumpsite in Ghana, by the German Minister for Economic Development who had then remarked that something had to be done about the problem. Ms Nature's attendance was part of the "doing something". Ms Nature noted that sound e-waste management has the potential to create jobs and prevent the loss of Africa's precious metals. She also stated that Europe has partial responsibility for Africa's e-waste problem through imports and exports. However, both parties need to work together in solving the problem. In Ghana, a recycling fund, supported by the German government was helping to reduce the problem of e-waste dumping and burning. She pointed out that Germany was the second largest contributor to the Basel Trust Fund, and was also supporting other related initiatives such as those of Solving the E-waste Problem (StEP) and Person-in-Port (PiP) projects.
12. Dr. Lawrence Anukam welcomed participants and commended the organisation of the workshop at this critical time of growth of the e-waste problem. He recalled that the waste problem came to the fore as a result of the Koko waste dumping episode in Nigeria in 1988 that led to the setting up of the Basel Convention and Nigeria's Federal Environmental Protection Agency (FEPA). FEPA had now been replaced by NESREA which is charged with the development and enforcement of local environmental laws and multilateral environmental agreements (MEAs) to which Nigeria is signatory. NESREA enjoys the collaboration of relevant international agencies (including Interpol),

and in recent times successfully prevented six incidents of shipment of e-waste into Nigeria. NESREA plans to implement the EPR and expects support and cooperation of international organisations and the private sector. Dr Anukam promised that NESREA will work closely with PACE and sister African countries on e-waste issues.

13. Livingstone Sindayigaya, on behalf of the AUC welcomed all participants, and indicated that their presence was testimony that many African countries take seriously the issue of e-waste management. He stated that the AUC had actively been involved in various aspects of international environmental issues such as negotiations, promoting ratification, sustainability, and enhancing capacities. He reiterated that e-waste was a huge problem in Africa. Environmentally sound recoveries from the waste could yield economic gains, while hazards could result from dumping. He stated that most African countries were parties to the various MEAs, but the lack of technical, financial and human resources was hampering success at implementation. This problem had been articulated at the Conference of African Health Ministers as a result of which an MEA unit was created in the AUC. This unit has been working towards the implementation of the Basel, Rotterdam, Stockholm, Bamako and other Conventions. He was convinced that this workshop will achieve much in capacity building, as it was an excellent opportunity for facilitators and participants to interact towards achieving better environmental management at the national and regional levels. He thanked the Government of Nigeria, the EU, UNEP, BCCC-Africa and the AUC for organising this workshop.
14. Mr Bayero welcomed participants on behalf of the Honourable Minister of the Environment. He restated the objectives of the workshop, and noted that these were commendable and very appropriate at a time when the e-waste problem was attaining a significant magnitude in Nigeria and unsound methods were being employed by the informal sector for managing the wastes. He stated that Nigeria had not relented in the search for solutions to the problem and had in recent years carried out several capacity building and sensitisation workshops on the e-waste problem. In addition, a draft policy on e-waste management had been submitted to government for legislation, and imports of e-waste have been restricted. Nigeria is signatory to many MEAs, and capacity building workshops such as this are valuable for implementation. He looked forward to home grown solutions as products of the workshop. Mr Bayero thanked all the sponsors and organisers, and on behalf of the Minister, declared the workshop open.
15. Self Introduction of Participants: Each participant introduced himself/herself, stating names and affiliations.
16. Group Photograph: Members assembled for a group photograph to end the opening ceremonies.

VIII. TECHNICAL SESSION 1 (Morning Session)

Introduction to the Issue of Waste Electrical & Electronic Equipment (E-waste)

17. The first paper of the session was presented by Professor Oladele Osibanjo, Executive Director, BCCC-Africa. His paper was titled: "The global issue of e-waste".
18. Prof. Osibanjo discussed the growth and globalization of the e-waste problem, e-waste constituents and toxicities, e-waste as resource, urban mining, flow patterns, statistics of global EEE production and associated e-waste generation. He also described the trends of e-waste imports into West Africa, local informal sector recycling techniques and impacts, challenges of e-waste management in Africa, impacts on the environment, and current status of chemicals/wastes MEAs in Africa. He provided a mapping of global initiatives by various stakeholders (Basel Convention: MPP1 2002

and PACE since 2008; Solving the E-waste Problem (StEP) of the United Nations University (UNU); Global e-Sustainability Initiative (GeSI) in 2001, an e-waste Working Group established by UNEP DTIE; Secretariat of Basel Convention (SBC) E-waste Africa Project (2009-2012); First Pan –African Forum on E-waste 14-16 March 2012 in Nairobi that developed strategies for achieving ESM of e-waste in Africa; IOMC : Adoption of Hazardous substances within the lifecycle of electrical and electronic equipment (HSLEEP) as an emerging policy issue at SAICM ICCM2 in Geneva in 2009 based on a motion moved by Africa and supported by PERU etc.); all geared towards achieving ESM of e-waste encompassing: (i) Identification of key issues/Assessment; (ii) Development of approaches/testing on pilot projects; (iii) Policy development /implementation of solutions and (iv) Monitoring.

19. The second paper was presented by Ms Tatiana Terekhova, Programme Officer, BRS Secretariat. The paper was titled: “Challenges and opportunities for the environmentally sound management (ESM) of e-waste in the African context”.
20. Ms Terekhova discussed the rapidly growing global problem of e-waste, highlighting economic resources and toxins derivable from the wastes. She described the various major global MEAs related to chemicals and wastes, and the outcomes of recent COP12 of the Basel Convention. Issues discussed with respect to the COP12 included the development of guidelines for ESM, legal clarity, guidelines for TBM of e-waste and used EEE, the Cartagena Declaration, and the decisions on national legislations, notifications, enforcements and combating illegal traffic. She also highlighted the socio-economic aspect, magnitude of the e-waste problem, and inflow into West Africa countries, especially Ghana and Nigeria. Finally, she reviewed associated challenges related to child labour, environmental pollution, as well as opportunities related to potential for resource recovery.
21. The third and final paper of the session was presented by Mr Muhammed Omotola, Associate Programme Officer, SAICM Secretariat. This was titled: “Hazardous substances in the electrical & electronic equipment as SAICM emerging policy issue”.
22. Mr Omotola provided background information on the structure and functions of SAICM and the International Conference on Chemicals Management (ICCM). He reviewed the issue of hazardous chemicals contents of EEE and the importance of chemicals in sustainable development. He also provided very valuable information on the Quick Start Programme Trust Fund that is a ready source of funding to support African nations in chemicals related work. Mr Omotola then described the highlights of ICCM4, the major outcomes and resolutions on HSLEEP (Hazardous Substances in the Life cycle of Electrical and Electronic Products)
23. Questions/Comments: There were no questions or comments in reaction to the three papers of Session 1.

IX.

TECHNICAL SESSION 2 (Afternoon Session)

Environmentally Sound Management of E-waste in the African Context

24. The lectures in this session generally dealt with issues of collection systems and environmentally sound testing, refurbishment and repair of e-waste and used electrical and electronic equipment. The session was moderated by Mr Lawrence Anukam, Director General, NESREA.
25. The first lecture of the session was presented remotely via Webex, by Willy Cade, CEO, PC Rebuilders & Recyclers, USA. This was titled: “Brief overview of environmentally sound testing, refurbishment and repair of e-waste and used electrical and electronic equipment”.

26. This presentation actually addressed the subject matter of the PACE document on “Revised guideline on environmentally sound testing, refurbishment and repair of used computing equipment”. Mr Cade distinguished between hardware and software and the needs for replacement of each. He also distinguished between Tier 1 and Tier 2 users of computing facilities. He gave some statistics on the uses and replacements of hardware and software. The presentation then discussed the flow/decision process for testing, refurbishment, repair and recycling of used computers and e-waste. The flow charts in the PACE guidelines were explained.
27. Mathias Kern wondered that in the earlier days of computers, it used to be somewhat impossible to install newer operating systems on older hardware. The reason usually was that the older hardware was not configured with adequate computing capacity for the new software. Was Mr Cade now suggesting that this problem does not arise any more, and that new operating systems do not necessarily require larger computing capacities and memory requirements and so can be installed on relatively older hardware?
28. Mr. Cade responded that it was the case many years ago, that newer operating systems had much larger sizes and computer memory requirements. The reverse actually is now the case. Newer operating systems are actually getting smaller, and so can be installed on slightly older hardware.
29. Mathias Kern stated that the problem with larger operating systems in the past caused many computer hardware to be replaced frequently, e.g. every two years or thereabout. In view of Mr Cade’s previous answer, what in his estimate would the new lifespan of a computer hardware?
30. Mr Cade responded that the estimate is about fifty years, or perhaps many years. The obvious advantage of this is that it significantly reduces the need to manufacture large numbers of newer computers, thereby protecting the environment and reducing the carbon footprint.
31. Kitan Ogunbuyi requested Mr Cade to kindly give further clarification on why he thinks that “new is not always the best”.
32. Mr Cade responded that this was for several reasons – (i) economically, refurbished computers are only a fraction of the cost of new ones, (ii) the use of refurbished computers reduces the mobilisation of materials resources and energy required for production, and so protects the environment, (iii) refurbishment can actually be made at a level that gives equal user satisfaction as can be derived from the new, and (iv) sometimes, newer computers actually lack the sturdiness of the old reliables.
33. Olugbenga Adebola noted that efficient refurbishment of computing equipment will require experts of the calibre of Mr Cade, and he wanted to know how a large pool of such refurbishment experts can be developed in Africa?
34. Mr Cade explained that a refurbisher can register for free with Microsoft and receive support. Also, free instructions for repair of equipment can be obtained from ifixit.com and other online sources. Thus, such resources can be accessed from Africa. He stated that there are currently 5000 refurbishers worldwide that are registered with Microsoft. One hundred and twenty of these are designated Authorised Microsoft Refurbishers. These can grow into a much larger network of refurbishers that can support each other and benefit African refurbishers to achieve greater efficiencies.
35. Narendra Singh stated that the cost of refurbishing an old or damaged computer may not always be economical in comparison to the cost of purchasing a brand new one, and requested Mr Cade to comment on the relativity of these costs.

36. Mr Cade responded that the cost of refurbishment may actually be quite economical relative to purchase of new computers. This would be more so when refurbishment is carried out on a large scale, e.g. refurbishment of computers from many government offices. Some persons will however prefer to purchase new computers rather than refurbish. He remarked that a mix of both is advisable.
37. The second paper of the session was presented by Engineer Adebola R. Shabi, General Manager, LASEPA, Nigeria. His paper was titled: "Case study on environmentally sound testing, refurbishment and repair of e-waste in Lagos".
38. Mr Shabi described classification of EEE and e-waste, the generation of e-waste in Lagos and the role of LASEPA in managing e-waste. He further described refurbishment and recycling activities at LASEPA's recycling plant, and highlighted the achievements and challenges of LASEPA in this regard. He recommended the inclusion of the informal sector in the business of recycling in order not to create unemployment.
39. The third paper was presented by Dr. Seck on behalf of Abou Traore who was absent. The paper was titled: "Case study on collection system as business model in Burkina Faso."
40. Dr Seck described the case of a profitable business model in Burkina Faso, in which a private company, Atelier du Bocage had been involved since 2005 in the business of collection, sorting, dismantling, packaging and transfer of e-waste abroad for recycling. The processes were conducted in environmentally sound manner. Constraints to the growth of the business were highlighted as due to inadequate financing and infrastructure.
41. The fourth paper was presented by Mr. Chidi Osuagwu, of the Used and Refurbished Computer Importers Association of Nigeria, Computer Village, Nigeria. His presentation was titled: "Case study on collecting e-waste and the role of the informal sector."
42. Mr Osuagwu indicated that his association is a collection of local importers of used computers from all over the world. Since 2012 they have been working with BCCC-Africa, LASEPA and NESREA to disseminate information to their members on the sound management of electronic equipment. They are fully aware of the potential for resource recovery from soundly managed e-waste, and are willing to benefit from this. He pointed out that there was always a thin and unclear demarcation between what is waste and what is end-of-life. Mr Osuagwu pointed out that members of his association were involved in importation but not indiscriminate burning as was often assumed and alleged by regulatory agencies. This act, he said, was the handiwork of unskilled scavengers. He therefore recommended the establishment of special control systems and centres for e-waste such that vendors can send unserviceable products to such centres for proper management. He also pleaded that regulatory and enforcement agencies, in a bid to achieve the laudable goals of environmental protection, should be wary not to take actions that could unintentionally harm the economy of the country and the livelihoods of the common man. He thanked the sponsors and organisers for the opportunity to participate in the workshop.
43. There were no questions/comments on the presentations of Engr. Shabi, Dr. Seck and Mr Osuagwu.

X. GROUP EXERCISE 1

44. This exercise was on environmentally sound testing, refurbishment and repair of e-waste and used electrical and electronic equipment.
45. Participants were placed in four groups, each of about 20 persons. The group coordinators were designated as follows:

Group 1 – Prof. Kamel;
Group 2 – Dr Seck,
Group 3 – Dr Taelo;
Group 4 – Mr Omotola.

46. Participants were presented with the Group exercise materials, and were expected to carry out the assignments 1 (Part A) and 2 (Part B) of the Group Exercise 1 (See the Annex). In so doing, they were expected to first read and get familiar with the relevant sections of the PACE document on “Revised guideline on environmentally sound testing, refurbishment and repair of used computing equipment”
47. Each group subsequently returned to give a report of their deliberations to plenary. A summary of the deliberations of the groups is given in the Annex.

DAY 2: WEDNESDAY 21 OCTOBER 2015

XI.

TECHNICAL SESSION 2 (CONTD.)

Environmentally Sound Management of E-waste in the African Context

48. During the morning session of Day 2, activities involving paper presentations were moderated by Dr. Taelo Letsela, Director, BCRC-South Africa.
49. The first paper of the day’s morning session was presented by Mr Matthias Kern of the BRS Convention Secretariat. His paper was titled: “Brief overview of environmentally sound material recovery and recycling of e-waste and used electrical and electronic equipment”.
50. Mr Kern described how the PACE guidance document on ES material recovery and recycling of e-waste and UEEE was developed, and for what purpose. The development had involved a multidisciplinary team that included lawyers, government officials, NGOs, technical recyclers, and other experts. The ongoing workshop was essentially designed to discuss how the guidelines can be applied to local situations in individual African countries. Mr Kern then briefly outlined the structure of the document and various steps involved in evaluation and sorting, disassembly and separation of materials, as well as CRT treatment, as contained in the document flow charts.
51. There were no questions asked or comments made in response to Mr Kern’s presentation.
52. The second paper of the day was presented by Mr Muhammed Omotola of the SAICM Secretariat. This was titled: “Actions on hazardous substances in recovery and recycling of e-waste and used electrical and electronic products”.
53. Mr Omotola discussed the concept of HSLEEP and how this was derived from SAICM/ICCM. He described the various actions that have been taken on this since adoption of the concept in 2009. The presenter showed how Dell, a foremost manufacturer of computing equipment has been taking

positive actions to eliminate the use of hazardous substances/chemicals in manufacturing its products. He showed that SAICM Secretariat had conducted surveys on how various governments and international organisation have been complying with the policy on HSLEEP.

54. Emmanuel Odjam-Akumatey appreciated that programmes are being put in place to take care of the future, based on data obtained from past occurrences. He would like to know if anything was being done by industries to take care of those who have been affected in the past by hazardous substances from their products.
55. Mr. Omotola responded that some companies such as Apple have claimed that they have been involved in some remediation work. This of course can be easily verified through research work that he encourages participants to conduct for verification purpose. He noted however, that the big companies have a lot to lose in respect of any false claims in respect of remediation achievements. He concluded that we should generally call on industries to show more responsibility in this regard.
56. Chinyere Emeka-Anuna noted that so far in the workshop, several issues have been discussed that are germane to the mandate of the ILO, e.g. formalising the informal sector, child labour, occupational safety, etc. She suggested that in future, organisers of workshops such as this should invite more stakeholders for participation. For example, she said, it would have been nice for labour inspectors to participate in this workshop.
57. Mr. Omotola responded that he was aware that the organisers did try to reach a wide diversity of participants, some of whom were not present for some reasons. The point was however well taken, and organisers would be encouraged to consult more widely in identifying stakeholders. In view of the comments, however, he promised to initiate further discussions with officials of the ILO office in Geneva.
58. Leslie Adogame requested to know if there are new initiatives to ensure that industries disclose the nature of the alternate, “safer” materials being used in new products to replace toxic chemicals of older products. Also, he asked why the presenter discussed ICCM3 outcomes in his presentation, in view of the fact that we already have ICCM4.
59. Mr. Omotola responded that UNIDO is in the vanguard of partnering with industries in this regard, and he was aware that several meetings had been held with OEMs in this context. He was glad that several representatives of the OEMs were present at the workshop to shed more light on the initiatives. He had discussed ICCM3 outcomes more in this presentation because HSLEEP was a major outcome of ICCM3 and not ICCM4.
60. The third paper of the day was proposed to be titled: “Case study of environmentally sound material recovery and recycling of e-waste and used electrical and electronic equipment in Lagos”. This was presented by Engineer Adekunle Ogunbiyi, Managing Director, LAWMA, Nigeria, with the title: “Development of machines and equipment for e-waste treatment in Lagos, Nigeria”.
61. Mr Ogunbiyi reviewed the urban e-waste data profile for Lagos, and listed various government organs involved in combatting the e-waste problem in metropolitan Lagos. He indicated that LAWMA had partnered with the local association of engineers to develop local sustainable equipment for e-waste management. He described the various local design for components such as crusher, shredder, pulveriser, magnetic separator, granulated grinder, etc. he compared the local products with those of automated designs in terms of costs and sustainability in the local environment, and highlights the comparative advantages of the local design. He recommended that exporting countries and inter-governmental organisations should support the initiatives in importing countries to fabricate such sustainable treatment facilities.

62. Olugbenga Adebola noted that this initiative was commendable and should be scaled up to accommodate not only e-waste, but all kinds of solid waste. He recommends that other organisations should join hands with LAWMA and the Nigerian Society of Engineers (NSE) to get this to a fruitful path.
63. Oludayo Dada stated that it is crucial for African governments to provide policy and technical guideline and standards in support of e-waste management. They should also encourage and fund waste management research by academia and the private sector, as well as create enabling environments for investors. To encourage green technology, international agencies should provide funding in support of local initiative and technology.
64. Almami Dampha remarked that he supports the suggestion that since Lagos is about the largest city in Africa, a solution for Lagos could translate into a solution for Nigeria and Africa in general. However, he was concerned by Mr Ogunbiyi's suggestion that LAWMA was not too worried by the trend towards increasing volumes of e-waste, giving the projected capacity to handle these. He believes LAWMA's efforts should be two-pronged, i.e., to develop the equipment, while also working towards reducing the generation of the wastes.
65. Oladele Osibanjo noted that the initiative is commendable and is a good product for partnership that should involve LAWMA and regional organisations such as the AUC, ECOWAS and the OEMs. LAWMA should not be deterred by the difficulty with funding, but instead be futuristic about its capability to provide solutions to the e-waste problem of Africa.
66. Leslie Adogame remarked that this was a commendable initiative that deserves to be exhibited at international for a such as ICCM activities where it can attract funding from donor agencies and investors.
67. Engineer Adekunle Ogunbiyi, in his response, noted that on the question of publicity of the research design before now, it would obviously not have been wise to publicise details of an ongoing research effort. A few persons/stakeholders who were critical to the application of the equipment were quite aware of the progress of its development. The equipment is being designed, bearing in mind the projected increasing volume of e-waste in Lagos. External funding has been very minimal, but there is a determination on the part of the engineers to contribute significantly to solving the e-waste problem.
68. The fourth paper of the second day was presented by Georgina Killikelly of Dell. This was titled: "Technology transfer: alliance extended producer responsibility (EPR) model and pilot".
69. Ms Killikelly described the special Alliance of four OEM members (Philips, Dell, HP and Microsoft) in partnership with international organisation such as UNIDO, etc., with the objective of developing and scaling up practical solutions to the e-waste problem on the ground in developing countries. The key principles of the Alliance include: establishment of recycling standards, involvement of the informal sector, fair competition in the recycling business, and regional solutions for effective e-waste recycling solutions. The presenter also indicated that the Alliance had established a regional pilot recycling plant in Kenya. The Alliance also seeks to employ a global network of refurbishment and repair centres to minimise the generation of wastes.
70. Omali Iwere requested to know if EPR schemes could be successful here in Africa without regional legislations to back them up. He was asking this because in countries such as the UK where the EPR schemes are successful, the schemes are usually backed up by relevant regulations that spell out who is obligated.

71. Muhammed Omotola noted that Ms Killikelly had indicated that when the collectors bring in the wastes, the recyclers usually collect the valuable materials while the non-valuables are taken away for dumping. He wanted to know what kind of support the OEMs and recyclers were providing for sound disposal of these non-valuable components. Also, it had been indicated that Nigeria could be one of the centres to be considered for the establishment of a regional hi-tech recycling facility which may serve the West African subregion. Wastes from neighbouring countries would then be processed in Nigeria. Mr Omotola foresees the problem of transboundary movement of such wastes from neighbouring countries, and the necessity for the Basel Convention Regional and Coordinating Centres to be proactive on this issue. This, he noted, also offers the opportunity for LASEPA, LAWMA and the State and Federal Ministries of Environment to collaborate with the OEMs on training and investment at the national level that could also be beneficial at the regional level. With regards to collaborations with UNIDO, UNEP, etc, he also thinks these should be developed into concrete projects that can benefit from financing through existing instruments such as the GEF and special programmes funds that are designed for strengthening institutional capacities for e-waste treatment.
72. Kitan Ogungbuyi asked whether in the pilot recycling plant in Kenya, the collection of materials is limited only to the products of the current four members of the OEM Alliance. Also, she wanted to know what specific treatment was usually carried out on the non-valuable portion of the waste that is not recycled.
73. Oladele Osibanjo noted that it is important to state the history of the development of the E-wastes Solutions Alliance for Africa. In 2010, BCCC-Africa organised a training workshop in Lagos for 150 members of the informal sector waste collectors, and invited HP to participate. It happened that the HP Director for Europe & Africa Mr Herve Guilcher was visiting Nigeria at that time, and was persuaded to make a brief appearance at the workshop. He was moved by the issues raised and the opportunities for support, and promised to partner with other equipment manufacturers to contribute to solving the e-waste problem. That was the origin of what eventually grew into the alliance which is now making significant contribution in this regard.
74. Osibanjo noted that the Alliance has been very supportive of governance processes related to e-waste legislation in Nigeria and Ghana where they have participated by providing advice and training support for the process. They are always willing to assist African countries in this regard. He agrees that regional solution for waste recycling is a good option for efficiency. However, some legislations such as the Bamako convention may hinder this option. The convention currently prohibits the importation of e-waste into Africa, and some countries have prohibited importation even from their neighbouring countries. It would therefore be very important to look into the issue of appropriate legislations to support regional solutions.
75. Osibanjo also indicated that certification of the recycling facilities was crucial, stating that there was no need to re-invent the wheel, as there were already several certification bodies in existence for this purpose. He was also worried about the growing number of supposedly licenced e-waste operators. He stressed the need for the regulatory bodies to step in to ensure that these were properly qualified for licensing. He urged governments to provide the right environment for investors in the e-waste treatment business. Finally, he wanted to know if the pilot plant in Kenya was still in operation, as there were conflicting reports on its status.
76. Ms Killilelly, in her response to the various questions and comments, indicated that the facility in Kenya was temporarily closed for a couple of weeks. This was because the facility recently changed hands as the original owner had moved back to the UK. There was the need for some legal paperwork to be effected to enable the reissue of licence to the new owners who were former shareholders of the facility. The facility would reopen as soon as this was concluded. As regards which particular manufacturers' products were recycled, she stated that the Alliance was not discriminatory in this regard, and all products were recycled. On the question of the EPR, she

reaffirmed that in Europe the enactment of regulations were essential for the EPR system to work effectively. She expects that this will be same for African countries who therefore need to speed up their various legislation processes. On the issue of the processing of the non-valuable waste, she indicated that the collectors were given the incentive of being paid for collecting the whole bulk of non-valuable and valuable materials in other to avoid “cherry picking”. She also, suggested that it was better, for fair competition, to have multiple operators in a given country. Finally, she indicated that the Alliance can always be reached via email, and that they are always willing to discuss various country needs with regards to e-waste management solutions.

77. The fifth paper was presented by Narendra Singh, who represented Prof. Li of BCRC-AP in China. This was titled, South-south cooperation: lessons learned from the environmentally sound material recovery and recycling in Asia”.
78. Mr Singh gave a background account of the BCRC-AP, and highlighted its major activities in the area of south-south cooperation, that included, human capacity building, training, networking, information exchange and policy and technology improvements in chemicals and waste management. He highlighted the fact that as part of this cooperation, Dr Adie of the BCCC-Africa had visited BCRC-AP for of six months in 2013 for the purpose of assisting in implementing projects related to e-waste, and learning modern e-waste management techniques in China. He mentioned the major e-waste related activities of the BCRC-China to include policy research, ESM review, collection demonstration, and technology research and demonstration. Mr Singh also described the e-waste recycling plant in Macau, China and the progress that has been made in e-waste management in China.

XII.

GROUP EXERCISE 2

79. This exercise was on environmentally sound material recovery and recycling of e-waste and used electrical and electronic equipment.
80. Participants were required to continue with the four group allocations that had been used for the first exercise. Participants were presented with the Group exercise materials, and were expected to carry out the assignment in Part A (See Annex). In so doing, they were expected to first read and be familiar with the relevant sections of the PACE document on “Revised guideline on environmentally sound material recovery and recycling of end-of-life computing equipment”.
81. Each group subsequently returned to give a report of their deliberations to plenary. A summary of the deliberations of the groups for this exercise is given in the Annex.

XIII.

TECHNICAL SESSION 3

Transboundary movement of e-waste and used electrical and electronic equipment.

82. The afternoon session began with Technical Session 3 that was moderated by Professor Kamel, Director, BCRC-Egypt.
83. Afternoon activities of the second day commenced with the first presentation of Session 3 by Ms Tatiana Terekhova of the BRS Secretariat. This was titled: “Brief overview of the technical guidelines on transboundary movements of e-wastes under the Basel Convention.”
84. Ms Terekhova explained the principles and steps of the Prior Informed Consent (PIC) procedure, particularly with respect to notification, consent and issuance of movement document,

transboundary movement of wastes, and confirmation of disposal. E-waste classification under the Basel Convention was discussed. The presenter discussed the processes leading up to the final adoption of the guideline by COP12 in May 2015. She then gave a brief summary of the contents of the guideline.

85. Dr Taelo Letsela of BCRC-South Africa gave the second presentation of the afternoon with the title, “Transboundary movements of e-waste: case study in South Africa, Namibia and Lesotho”.
86. Dr Letsela explained the structure of the African Institute and the other Basel Convention regional centres in Africa. He described the e-waste initiative of the Institute as constituting assessments and pilot projects that could be replicated in other communities. The Institute had recently hosted an e-waste EPR conference, and also submitted a 12 country regional e-waste project proposal to GEF for funding. A regional pilot recycling project is being established in South Africa (as the collection node) that will receive e-waste feedstocks from South Africa, Lesotho and Namibia.
87. Almami Dampha of the AUC commended the idea of the pilot recycling plant project, stating that it was a good approach and a wise selection of participating countries. He indicated that he would have further discussion with Dr Letsela on the issue with the aim of getting some funding support from the African Union Commission.
88. Mr Olugbenga Adebola expressed concern about current restrictions on free movement of wastes within the African region, and proposed a revision of the conventions so as to allow for this. Such movements will enable the regional use of collection nodes that can receive recyclable wastes from other countries.
89. Edith Iriyaga would like the speaker to describe some of the successes and challenges of the pilot project in South Africa.
90. Mr Ndukwe Ukandu indicated that his Association of Vendors of Used EEE in Nigeria have participated in several workshops on similar issues in the past. They have unfortunately till date not received any form of government assistance to enable them put into practice some of the knowledge they have gained on the ESM of wastes. He suggested that a pilot regional e-waste recycling plant should be established in Nigeria.
91. Oladele Osibanjo pointed out that there were existing institutions already in place for promoting regional cooperation. These include the various Basel Convention regional and coordinating centres in South Africa, Senegal, Egypt and Nigeria. He stated that these institutions would take up the issue of the difficulty which the Bamako Convention now constituted with respect to regional cooperation in e-waste management. He hoped the AUC would also look into this.
92. Dr Letsela expressed satisfaction with the generally positive sentiments in support of the regional approach. He stated that the pilot project was only still at the starting stages and is envisioned for completion in the next 24 months. After this early stage, the community members would be trained on how to handle the tools and equipment to be installed.
93. The third lecture of Session 3 was presented by Kevin Mercieca of the European Union network for the Implementation and Enforcement of Environmental Law (IMPEL). The title was: “Case study on EU-Africa cooperation on enforcement”.
94. Mr Mercieca described the structure and organisation of IMPEL as an association of the environmental authorities of EU member states. He highlighted the Waste and Transfrontier Shipment (TFS) clusters of the association whose core objective is to ensure that all those involved in the international trade in waste are aware of and comply with their international obligations under international law. He also defined the problems associated with EEE and the EU’s approach

to these. He provided statistics on the extent and targets of recycling and reuse of EEE in the EU. Mr Mercieca then discussed the role which IMPEL had played in the E-waste Africa Project, with the ultimate goal of preventing illegal traffic.

95. Okay Benedict Agu wanted to know if the 2011 e-waste regulation in Nigeria had in any way helped IMPEL to ensure a reduction in the shipment of e-wastes to Nigeria.
96. Mr Mercieca responded that with the new regulation, it was likely that it would be easier to enforce the limitation to TBM. However, it was still too early to generate adequate statistics to concretely state whether there had been a decrease or not.
97. Oladele Osibanjo commented that he had been opportuned in the past to lead a team of 19 African expert, guided by IMPEL, on a training mission to Europe. The team consisted of personnel of regulatory and enforcement agencies, Ports Authorities, Customs, etc. from various African countries who before then had no communication interactions amongst them. These were trained on ports inspection in Antwerp, Amsterdam and Rotterdam. A fallout of this training was the formation of the AU-EU network which has been providing relevant intelligence network on TBM, that has led to successes in interception of illegal shipments of e-wastes by NESREA. He hoped that all those trained were still actively contributing to this network, which actually needs to be revived as a fully regional network.
98. Mr Mercieca reiterated the importance of good networking among the shipment inspectors of various African countries in order to achieve success with the control of TBM of WEEE.
99. Ronke Soyombo commented that with the support of the INTERPOL, the activities of the AU-EU intelligence network had clearly led to a reduction in the traffic of illegal e-waste to Nigeria.
100. Mr Seck also emphasised the need for effective networking among the Basel Convention focal points in all African countries.
101. The fourth presentation of Session 3 was titled: "Experience on enforcement of Basel Convention and prevention of illegal traffic in Nigeria", and was given by Ms Miranda Amachree on behalf of Mr Lawrence Anukam, Director General, NESREA, Nigeria.
102. Ms Amachree reviewed the e-waste importation statistics for Nigeria, and put this at about 40 million tonnes annually. As part of the effort to combat the menace by effective treatment, the first recycler has only recently been registered and would have to undergo certification. National efforts at combating e-waste shipment into Nigeria include the establishment of the Toxic Waste Dump Watch programme which has succeeded through intelligence and cooperation with sister agencies, to return several shipments of hazardous wastes back to ports of origin. Importers of UEEE have also been registered, and NESREA is now connected to the single window trade platform. She listed the various international cooperation programmes in which Nigeria is involved, and then highlighted the successes and challenges of NESREA in its activities against e-waste dumping.
103. Okay Benedict Agu requested to know what NESREA and the OEMs are doing to ensure the effective take-off of the EPR programme. He also wanted to know what the government and NESREA were doing to provide incentives to the informal sector that is involved in e-waste management.
104. Issama Mangalili asked if the importation of functional EEE, which may in fact really be near EoL UEEE, needs to be subjected to some standardisation in view of the fact that such equipment may in very short time after importation, become obsolete e-waste.

105. Olugbenga Adebola pointed out that there could be a difficulty of feeding the major recycling plants that has already been registered, with a steady and adequate quantity of e-waste. This could arise by the informal sector cornering most of the available e-waste. Mr Adebola then suggested that NESREA should therefore factor this situation in considering applications for approval to establish such major recycling facilities.
106. Almami Dampha asked whether NESREA was in any way supporting smaller neighbouring countries such as Togo and Benin, with low technical capacities, in enforcement of control of TBM, giving the relatively larger size and capacity of Nigeria.
107. Taelo Letsela asked whether NESREA has programmes to address the informal sector since the debates around the e-waste issue suggest that as long as the informal sector does not play by any rules, it is going to be difficult to get a formal sector that plays by some rules.
108. Oladele Osibanjo pointed out that the AU-EU network at present consists of only five African countries. He stressed the need for the AUC, ECOWAS and other sub-regional bodies to assist other African countries to be able to participate actively in this network and make it a strong African regional network. On the issue of what to do with the informal sector, Professor Osibanjo advised that they be integrated and organised for effective inclusion and participation in any model of e-waste recycling facilities/processes to be adopted. He cautioned that it may be futile and chaotic to attempt to do away with the informal sector that already controls the critical raw material for the recycling industry. He further advised that government should also provide incentives for investors in the recycling business. Finally, he informed that there were already in existence, manuals for ports inspection, that were prepared from workshops organised by the African BCRCs and BCCC-Africa some years back. He requests that African countries look inwards and use existing facilities.
109. Ms Amachree, in her response, indicated that NESREA had realised that the earlier stated period of two years by which the EPR scheme was to come into force was not feasible as it was too short a period. More time was needed for NESREA to ensure that the programme was conducted in the right way. She further explained that even the concept of “producer” of EEE needs to be redefined in the Nigerian context to include importers and major distributors since most EEE are really not manufactured locally. On the question of incentives to the informal sector, she explained that such incentives will be indirectly linked to the EPR, as “producers’ will be expected to initiate schemes that would be beneficial to the informal sector. She also indicated that NESREA was open to submission of proposals from many operators of recycling plants, and would not limit itself to registering only one company. However, NESREA is being careful in making such approval at present, and is deliberately avoiding companies that wanted to engage only in recycling limited group of waste types.

XIV.

GROUP EXERCISE 3

110. This exercise was on transboundary movement of e-waste and used electrical and electronic equipment. Participants were required to continue with the four group allocations that had been used for the first exercise. Participants were presented with the Group exercise materials, and were expected to provide answers to questions 1-9. In so doing, they were expected to first read and be familiar with the relevant sections of the PACE document on “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”.
111. Each group subsequently returned to give a report of their deliberations to plenary. A summary of the deliberations of the groups for this exercise is given in the Annex.

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XV. TECHNICAL SESSION 3 CONTINUED

112. The morning session of the Day 3, was moderated by Professor Oladele Osibanjo. The focus of the presentations was on national legislations related to e-waste in Africa.
113. The first paper of the morning was presented by Ms Tatiana Terekhova of the BRS Secretariat, and this was titled: “Basel Convention tools for the national legislation”.
114. Ms Terekhova stated that only very few African countries have laws that deal with hazardous waste, and even fewer have on specific type of such waste. She pointed out that in the absence of such laws, any other existing environmental law may be suitably applied to solving some aspects of the ESM of e-waste. She explained that some practical manuals have been developed (available as drafts) to assist countries in making legislations for e-waste management. Two of these important manuals are: the draft “Practical Manual on General Policies and Legislation”, and the “Manual for the Implementation of the Basel Convention (Including the Legislators’ Checklist)”. She indicated that legislations must be based on certain principles that include: precautionary principle, prevention, polluter pays principle, sustainability, public participation in decision making, access to information, environmental justice, waste management hierarchy, etc. Each country should develop a legal framework and designate/empower the focal points. All stakeholders should be identified and synergies encouraged at the national level. Ms Terekhova identified the institutional and infrastructural arrangements required for implementation of the convention, and identified various national level elements for ESM such as waste strategies, waste generation, enforcements, penalties, etc. The checklist for legislators was then presented. She further stated that the national hazardous waste list should be defined, and the competent national authority identified.
115. Leslie Adogame wanted to know if it was really necessary for African countries to deal with the Bamako Convention if they have ratified the Basel Convention. He further asked if there was any synergy between the Bamako and Basel conventions. Mr Adogame again asked where African countries currently stand with respect to TBM of e-waste, in view of on-going efforts at legislation in some countries.
116. Kitan Ogunbuyi reiterated the need to review the Bamako convention which was now becoming more of a hindrance to regional approaches to waste management.
117. Bougonou Djeri-Alassani agreed that something needs to be done in respect of the Bamako Convention. He also indicated that given the numerous initiatives that appear to be forthcoming within the West African subregion, it may be necessary to set up a consultative group that would assist the ECOWAS and its member state in an advisory capacity in formulating, coordinating and executing their chemicals and wastes programmes.
118. Ms Terekhova, responded to the issues raised on the Bamako Convention by indicating that out of the 54 signatories to this convention, only 25 had ratified it, whereas almost 100% ratification has been achieved with the Basel Convention. While both conventions differ in some respects, the anticipated entry into force of the BAN Amendment may make both Conventions almost equivalent. On the question of synergies between both conventions, she stated that there was in fact recent ongoing activities towards such synergies that would lead to joint activities such as capacity building. A joint meeting of the focal points of both conventions in Africa was also being proposed for November 2-4, 2015. The presenter indicated that the BRS Secretariat also engages in supports to needing countries in respect of the legislation process. With regards to adequacy of the volume of

waste generated, she stated that the estimated 2 million tonnes per annum figure for the whole of Africa was most like an underestimate. This is because the e-waste Africa project which involved a direct field work had determined that the value for Nigeria alone was about 1.2 million tonnes annually. This, she concluded, should be evidence that e-waste generation rates will be adequate to feed the proposed recycling plants.

119. The second paper of the morning was presented by Mr Felix Mote of the Environmental Protection Agency, Ghana. This was titled: “Case Study on developing national legislation on e-waste in Ghana”.
120. Mr Mote identified various existing environmental legislations in Ghana and noted that none of these was specific for hazardous e-waste management. The government of Ghana recognises the hazardous nature of e-waste and undertook studies and assessment with a view to developing a Ghana national e-waste strategy. The development of this strategy document was successful, and the strategy details interventions in the areas of policy & legislation, business & financing, technology & skills, as well as marketing, awareness and education. Details of each of these component areas were described. An e-waste trust fund is also being proposed for the funding of e-waste management. This is to be collected from manufacturers and importers. He identified the frequent changes in the persons of the sector Minister as one of the challenges that has led to delays in passing the e-waste bill into law.
121. Olugbenga Adebola wanted to know what would become the fate of the Agbogbloshie contaminated site if the dump is moved from that location as is being planned by the Ghanaian government.
122. Tomi Ajayi asked whether Ghana has something in her national constitution that deals with the need to care for the environment.
123. Agu Benedict Okey wanted to know if the attempts at formulation of e-waste legislations in Ghana and Kenya were preceded by the elaboration of policies. Mr Okey was emphatic that a policy should always be in place before the attempt at legislation.
124. Mr Femi Adegbite requested to know who will manage the e-waste fund, and at what points the monies would be collected.
125. Mr Mote responded that the relevant environmental agency in Ghana had constituted a stakeholder forum to discuss the issue of possible stoppage of burning and cleaning up of the Agbogbloshie dumpsite. On the constitution, he affirmed that there is reference to the obligation of the citizen to care for the environment. There was also now an e-waste policy in place since 2014 via its mention in the national environmental policy. It is not a separate e-waste policy document. The e-waste trust fund will be managed by a seven member board of trustees selected from relevant government Ministries and Departments. The levies will be collected at the points of importation into the country and manufacture within.
126. The third paper of the morning was presented by Ms Immaculate Naliaka Simiyu, Senior Compliance and Enforcement Officer, National Environment Management Authority, Kenya. This was titled: “Case study on developing national legislation on e-waste in Kenya”.
127. Ms Simiyu described the status of the waste-related regulations in Kenya. She indicated that the e-waste component was originally not captured, until 2006. There now exists, however, a new e-waste regulation 2013 for Parliament’s consideration, highlights of which the presenter describes. Passing this into law has suffered delay due to bureaucracy. Ms Simiyu outlined challenges to e-waste management in Kenya to include: lack of infrastructure for collection, transportation,

recycling, lack of awareness, lack of standards, and inadequate collaboration between actors. The opportunities for greener economy and resource recovery are similar to those already highlighted for other countries. Two recyclers have been licenced, and awareness raising amongst the informal sector is ongoing. She reiterated the need for regional solutions to the e-waste problem.

128. Marzouki Abderrazak wanted to know what the speaker meant by the word “producer” in the context of e-waste management.
129. Ronke Soyombo expressed surprise that the Kenyan regulations had not yet been passed into law, and would like the speaker to shed more light on what was causing the delay. Also, she would like the speaker to shed some light on the Kenyan experience with the recycling plant in that country.
130. Ms Simiyu, responding to the question on illegal trafficking, indicated that the Interpol had been of great assistance to Kenya in ensuring that this was not a common problem. Only one case was recently reported at the port of Mombasa. On the issue of who is a producer, she indicated that this would be anyone who was introducing or bringing in an EEE into Kenya, e.g, a manufacturer, assembler or importer. Such a person would be issued with a licence annually. She stated that section 42 of the Kenyan constitution contained a clause on the obligation to care for the environment. On the delay in passing the e-waste bill into law, she expressed the hope that this would be achieved in the nearest future since the legislators now appear to better understand the issues. On the state of the recycling facility in Kenya, Ms Simiyu stated that this was still at the pilot stages, at about about 40% operational level . She was hopeful that in due course the facility will grow to attain its full potential. On the issue of an e-waste policy, the presenter indicated that there was none. The draft environmental policy document however makes some references to the issue of wastes in general.
131. The fourth paper of the morning session was presented by Mr Yomi Banjo of UNIDO Regional Office, Abuja, Nigeria. This was titled: “Engaging the e-waste sector in Nigeria: UNIDO’s approach”.
132. Mr Banjo gave some background information on the structure of UNIDO and the four thematic areas of its mandate, which include green industry (environment and energy). In this respect, UNIDO has been involved in greening existing industries, and in creating green industries through several of its flagship programmes. He presented the staggering statistics for the global e-waste threat for current and projected magnitudes, and then discussed the UNIDO’s approach to e-waste management that involves partnerships and networks with businesses, NGOs, platforms, other UN agencies, etc. He described the UNIDO e-waste projects in Uganda and Tanzania, and the various pipeline e-waste management projects across the world. Mr Banjo outlined details of UNIDO’s Nigeria’s e-waste management programme, and the involvement of other development and donor partners in a coordinated network to assist the Nigerian government on environment issues. A result of the programme was the e-waste stakeholders’ workshop in Abuja in November 2014.
133. Muhammed Omotola acknowledged that the SAICM Secretariat had been partnering with UNIDO on the e-waste problem from the upstream and downstream sides. He indicated that there had been strong cooperation among several international organisations such as the UNEP, UNIDO, ILO, GEF, etc. These agencies have the capacities to support activities in the e-waste sector, and participants were encouraged to take advantage of these resources.
134. Emmanuel Akumatey-Odjam wondered if the special UNIDO project in Nigeria could be extended to Ghana.
135. Olugbenga Adebola wanted to know the operational status and capacities of the UNIDO sponsored recycling plants in Tanzania and Uganda. He also asked about the extent of direct collaboration of UNIDO with local municipal authorities in tackling the e-waste problem.

136. Joko Owoso inquired if there was enough e-waste generated within the African region to feed the various recycling plants being proposed.
137. Agu Benedict Okey asked the presenter to explain the nature of the interface which UNIDO has with the informal sector.
138. Issana M. Mangalili informed participants that the recycling plant in Tanzania was still at a juvenile stage, with construction work still in progress. The informal sector was however being well mobilised to participate in the e-waste management process.
139. Mr Banjo responded to the issue of location of the proposed pilot project in Nigeria by explaining that this was due to the size and complexity of Nigeria. It is believed that if the project works well in Nigeria, it should work easily in other West African countries where it may then be replicated. He stated that the recycling facilities in Tanzania and Uganda were on-going projects. On the issue of collaboration with local authorities, he indicated that UNIDO has been doing this, and gave examples of recent collaborations with LAWMA and LASEPA in Nigeria. On adequacy of e-waste feedstocks for the recycling plants, he was of the opinion that the plants should not have serious problems with supplies as the plants would be established for regional operations. Interfacing with the informal sector had not yet begun, but structures for achieving this are already being put in place based on a recognition that this sector would be needed for the pilot project.

XVI.

SESSION 4:

140. Needs, challenges and opportunities for the environmentally sound management of e-waste in Africa.
141. The morning activities continued with Session 4 which was a group activity. Participants, still in their previous groupings were required to discuss and comment on a number of PACE guideline documents and initiatives. The three topics listed for the discussion and comments were:
 - Technical guidelines for transboundary movements of e-waste and used electrical and electronic equipment
 - PACE after PACE
 - Priority actions for ESM of e-waste in Africa

Afternoon Session, Day 3, Continuation of Session 4:

142. Participants completed the discussions on the three PACE issues, and returned to plenary for their individual group presentations.

XVII. QUIZ

143. Participants in their various groups took part in a short quiz competition which tested their knowledge on some of the issues that had been discussed in the presentations. Participants generally performed well during this exciting quiz session that was conducted by Mr Matthias Kern and Ms Tatiana Terekhova.

XVIII. CONCLUSIONS AND RECOMMENDATIONS

144. Participants were presented with a synthesis of the core issues, conclusions and recommendations of the workshop so far, as compiled by the rapporteur, Professor Percy Onianwa. The presentation session was moderated by Professor Oladele Osibanjo. A few suggestions for inclusion of additional points were made by some participants, and the presenters promised to incorporate these in the final report. The revised synthesis of issues, conclusions and recommendations is presented in Section VI above.

XIX. PRESENTATION OF CERTIFICATES

145. Certificates of participation were presented to all participants by Mr Matthias Kern, assisted by Ms Terekhova, the Directors of the BCRCs and BCCC, as well as the AUC officials. These certificates had been endorsed by (i) Rolf Payet – the Executive Secretary of the Basel, Rotterdam and Stockholm Conventions, (ii) Fatoumata Jallow Ndoye – Coordinator of EC-ACP Capacity Building Project on Multilateral Environmental Agreements, and (iii) Oladele Osibanjo – Executive Director, BCCC-Africa.

XX. CLOSURE OF THE WORKSHOP

146. The workshop was declared closed at about 6.45 p.m.

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DAY 4 – FRIDAY 23 OCTOBER 2015

XXI.

FIELD VISIT

147. Participants embarked on a field visit to two locations in Lagos where it was possible to view the informal sector at work, collecting, refurbishing, resource-recovering and disposing e-waste and other wastes. The locations were:

(i) The Ojota Scrap Yard, and

(ii) The Ikeja Computer Village

About 52 participants took part in the field visit that lasted between 9.30 a.m. and about 3 p.m. Transportation was graciously provided by LAWMA and LASEPA.

148. OJOTA SCRAP YARD

This is a slum settlement located within the Ojota district of Lagos metropolis. It serves as residence for many artisans and waste scavengers, as well as a storage facility and market for their wares. From this location, the scrap collectors farm out into the city daily to source for used and waste items of metals, electrical and electronic equipment and other materials which they bring back to this scrap yard. They then sort these according to types, and strip/recover useful resources such as metals (copper, aluminium, iron, etc.). These they sell for a living in large quantities to industries and other buyers. Participants interviewed some of the residents and workers of this scrap yard and observed some of them directly at various jobs, including stripping useful materials off EEE:

The entourage noted the following:

- The artisans were well organised into some form of groupings under a local “village” leadership.
- They were observed to be involved in processing the scrap metals and electronic waste by mere physical forceful handling in a very unsafe and environmentally unsound manner.
- There was strong smell of battery acid poured all over the soil of the yard. The wastes of the yard’s activities were said to be usually disposed into a nearby stream.
- No protective equipment (e.g., gloves, goggles, etc.) were worn.
- The community leaders claim that they were aware their modes of operation were unsafe and hazardous, but that they cannot afford the more expensive protective equipment.
- They claimed that the work they do and their environment have not impacted them in any negative way beyond the little physical injuries that they sustain from time to time.
- They claimed that they had not been receiving support from the local and State governments, but were instead constantly harassed by municipal regulatory authorities, whenever they were out on the streets scavenging.
- They claimed that their association is properly registered with the Trade and Commerce Ministry. This should make it easy to formalise and relate with this group in the future.

149. IKEJA COMPUTER VILLAGE

The Ikeja Computer Village is a big market located in a very built up area of the Ikeja district of Lagos. Trading is mainly restricted to electrical and electronic equipment, particularly computers and computer accessories. The traders import new equipment, second hand / used equipment, and some e-wastes. Participants were conducted round different sections of the market by the

representatives of the computer vendors who had participated actively during the past three days of the ongoing e-waste workshop.

Participants observed the following:

- The operators of the market were well organised into unions through which it could be possible to relate to their members.
- Refurbishment and recovery activities were observed to be actively carried out here.
- The recovery process was observed to also involve the very crude forceful methods that are unsafe and environmentally unsound.
- Participants did not observe any open burning of e-waste that has been previously identified with this location. One of their representatives had earlier informed plenary that this practice had been stopped.
- Though refurbishment of used computers was a very active business at the market, none of the traders was equipped with modern facilities for refurbishment.
- There were also no operator with modern facilities for dismantling and resource recovery of computing equipment.
- Electricity power supply was erratic as in most parts of Nigeria. At the time of the visit, most of the shops had switched on their individual generating sets. This constituted a very uncomfortable health hazard in the closely packed market stalls.



Participants and scenes from the Ojota Scrap Yard



Display and sale of imported used EEE in Computer Village, Ikeja, Lagos.

ANNEX I

WORKING GROUP MATERIALS AND SUMMARIES OF GROUP DECISIONS ON THE EXERCISES 1, 2 AND 3

Regional workshop on enhancing capacities for the environmentally sound management of e-waste through the regional delivery in Africa

Working Group Materials

General Instructions

Participants are invited to engage in practical exercises to acquire hands-on experience on how to deal with the environmentally sound management and transboundary movements of used electrical and electronic equipment and e-waste.

Three groups consisting each of 7-10 participants will be set up in order to carry out the working group discussions and exercises. Each group will be assigned a facilitator.

After The group exercise the participants will be invited to share their experience, lessons learned, challenges and solutions.

Exercise 1: Environmentally sound testing, refurbishment and repair of e-waste and used electrical and electronic equipment.

Exercise 2: Environmentally sound material recovery and recycling of e-waste and used electrical and electronic equipment.

Exercise 3: Suspected shipment of e-waste/used equipment

GROUP EXERCISE 1

Environmentally sound testing, refurbishment and repair e-waste and used electrical and electronic equipment

1) Part A

You have been hired as a General Manager of the facility “Mega store R&R” located in country B. This facility specializes on refurbishment and repair of used and end-of-life computers and laptops. From your initial observations, the operations of the facilities need to be improved to ensure that refurbishment and repair are performed in the environmentally sound manner. You also want to ensure that occupational safety of workers is in line with the legal requirements.

Please develop a roadmap, which will include a list of actions to be implemented in your company to ensure that all operations are done in the environmentally sound manner. Please also note challenges and opportunities for implementing each of actions in the African context.

Roadmap:

- Carry out a gap analysis and SWOT analysis of the existing facilities, particularly to issues related to the environment, safety, health, socials and financial.
- Review the legislative requirement
- Review the existing capacities in terms of staff numbers and skill required
- Develop a policy and action plan in conjunction with other managers
- Communicate the action plan and policy to the other workers and get their feedbacks.
- Discuss with all staff the need to achieve ESM
- Allocate functions as appropriate to achieve maximal output
- Monitor staff and facilities regularly and take corrective actions
- Train and retrain staff on ESM and other functions
- Keep and maintain adequate and useful records well
- Motivate staff and monitor staff health regularly via routine medical checks
- Review SOPs
- Monitor the environment of the factory from time to time to ensure no adverse effect on Human health and environment
- Carry out routine maintenance and servicing of work facilities and infrastructure.

2) Part B

You are inspecting a facility that is refurbishing computers and you see a computer with a scratched case. How can you tell it is a fully functioning computer ready for reuse? A good computer.

Test of Functionality:

- Check if there is a power cable
- If cable is available, power on the CPU and allow booting to complete.
- Connect the CPU to a monitor. Does it work? Is any software installed?
- Connect a key board. Is this working?
- Connect a mouse. Is this working?
- Connect a mouse. Is this working?
- Connect to a printer. Is this working? Print a test page.

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GROUP EXERCISE 2

Environmentally sound material recovery and recycling of e-waste and used electrical and electronic equipment

Group exercise 2

Participants of the working group are invited to discuss the issue of material recovery and recycling of e-wastes. Participants should assume that the facility, level of infrastructures and practices are similar to those in their own country.

You are the recycling facility Mega Store Recycling in Country B. You have received the following e-mail from the retailer in Country A regarding the arrival of a shipment of e-waste

.....
From: 'Retailer@countryA.com'
To: Mega Store Recycling@countryB.com
CC:
Subject: e-waste shipment
Date 21 October 2015

Dear Colleagues,

As per contract AX-12-34 signed on September 20, 2015, please find below the description of the e-waste shipment:

- 80 TVs (50 are cathode-ray-tube (CRT) television sets);
- 100 central processing units;
- 100 laptop computers;
- 200 mobile phones
- 200 printers

Based on our contract, we understand Mega Store Recycling has the capacity to recover or recycle these materials in an environmentally sound manner.

Yours faithfully,

Retailer
Country A

Part A: Please describe the decision-making process for end-of-life equipment to be recycled and/or recovered. What are the main steps? What are challenges and advantages to ensure the environmentally sound material recovery and recycling in African countries (for each step)?

Decision Making Process:

- Decide if the shipment comply with the contract as signed if not return at the cost of the sender
- Receive the shipment from the port
 - Verify the documentation to ensure it complies with Basel conventions
- Evaluate the equipment individually to ascertain its suitability for refurbishment, reuse or recovery
 - Document the outcome of evaluation to see if it complies with the local legislation and international conventions (Basel Convention)
- Prepare an inventory of the equipment including which equipment/parts will be transferred to refurbishment or dismantling units
- Separation:
 - Identify non recyclable components (50 CRT TV sets) and separate them;
 - Separately handle printers; and
 - Group the 30 TV sets without CRT with the other waste;
- Dismantle the printers, TV sets without CRT and other e-waste as outlined in the guideline
- Sort dismantled components according to type of materials recovered
- Package the sorted components according to type
- Processing: Send the Different components to other facilities for materials processing (plastic, gold, copper, aluminum)
- Package the 50 CRT TVs and ship according to the national legal framework and BC guidelines for further processing)
- Provide feedback to the client that their waste was handled in an ESM

Challenges:

- Lack of infrastructure
- Lack of technical skills and capacity
- Weak governance and legislation
- Poor awareness mechanism
- Lack of proper environmental health and safety mechanism
- Reduce ultimate waste to its possible minimum
- Direct reuse of the equipment should be used during the reasonable period

Advantages:

- Ensure that environmental and health aspects are respected
- Negative impacts caused by e-waste are controlled and tackled

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GROUP EXERCISE 3

Case study of a suspected shipment of e-waste *Group Exercise 3*

Participants of the working group are invited to discuss the issue of dealing with the suspected shipment of e-waste. Participants should assume that the legal and institutional framework as well as all procedures and practices of Country B are similar to those in their own country.

You are the Competent Authority in Country B. You have received the following email from the port authorities in your country (Country B) regarding the arrival of two containers originating from Country A.

.....

From: PortAuthority@countryB.com
To: CompetentAuthority@countryB.com; Customs@countryB.com;
Police@countryB.com; LegalExpertMinistryofEnvironment@countryB.com; Judge@countryB.com; Prosecutor@countryB.com; MinistryofTrade@countryB.com;
CC: Baselfocalpoint@countryB.com; Shippingline@countryB.com; limporter@countryB.com

Subject: RE: Suspected shipment arrived in the port

Date: 25 September 2015

Dear colleagues

Please find attached a number of pictures of the unloaded content of two 40ft containers received in our port on 24 September 2015. The origin of this shipment of Country A and we at the port authority of Country B, need your advice as to how to proceed. The sender of the containers is a trader from Country A.

The content of the container 1 is used household equipment refrigerators and TVs. Several appliances had stickers on them that they were in fact working. One of the fridges contains CFC (R12) coolant. The commercial invoice includes the list of prices for these equipment. The price of fridges is in the range of 40-60 USD (the average price for used fridges in our country is 120 USD). The TVs included in the shipment are cathode-ray-tube (CRT) television sets.

The content loaded in the container 2 is used LCD screens. This container's accompanying documentation includes a copy of the invoice, certificate of testing, information on Mega Store (the retailer in country B), and a signed declaration by the sender confirming that he concluded a contract with the Mega Store Repair (subsidiary company of the Mega Store) on the subject of refurbishment and repair.

Based on the documents which accompany this shipment, the content of the shipment is not waste but warranty goods and used equipment.

We need your assistance to determine which equipment is indeed waste and which is not. This is not the first time we come across such containers and this may happen again in the future.

Please provide answer to the question below.

We look forward to further collaboration.

Port Authority

Country B

1) Is the Party status of countries A and B relevant?

- ***Party status of both countries is relevant due to the requirement of the Basel Convention – (Article 6 Transboundary movement between parties)***

2) What if one of the countries was not a party to the Basel Convention, is the prior informed consent procedure still applicable?

- ***Yes, the PIC is still applicable. The convention does not allow movement unless a bilateral ,regional arrangement exists as required under article 11 of the convention. Moreover, the shipment may pass through territories of countries that are not parties to the transactions.***

3) What legal and factual elements are relevant to determine whether the shipment can be classified as “waste” or to support the claim that it is second hand goods that are “non-waste”?

- ***The national legislation of the receiving or exporting country.***
- ***The list of hazardous materials specified in Annex III of the convention.***
- ***Exhibition of hazardous waste characteristics by the shipped materials.***

4) Is it sufficient for Basel Convention to apply that it has been established that the shipment is waste?

- ***No, unless it is hazardous waste.***

5) You had a teleconference with the trader from Country A to ask some additional questions. The trader specified that: “the equipment in shipment container 1 is raw materials for recycling industry in Country B”. He also mentioned that it is not possible to manage these materials in an environmentally sound

manner in his country, however he heard that is possible in Country B. You know that the Convention says that hazardous wastes and other wastes should, as far as is compatible with environmentally sound and efficient management, be disposed of in the country where they were generated. Should the shipment B be allowed for export?

- ***Yes, if the port authorities have received PIC and the receiving country has the capacity to manage it in an environmentally sound manner. (Article 4, paragraph 8)***

6) For the container 1, what are the determining factors from the information given to decide if the content of the container is waste or not?

- ***Contains CFCs, CRTs – hazardous components***
- ***The price paid is lower than the market price***
- ***Protection against damage during transport is inappropriate***
- ***The equipment is worn or damaged in appearance***
- ***Equipment is not complete, essential parts missing***

7) For the container 2, is information given sufficient to decide whether the content of the container is waste or not? What is missing?

- ***Information is not enough. No specific declaration from the transporter that the shipment is waste or not [Paragraph 31 (a i-iv) pg 10]***

8) If it is determined that the shipment amounts to waste, on what basis should its hazardous or non-hazardous nature be established?

- ***Annexes 3, 8, , 9 and domestic legislation***

9) If the waste is not defined as hazardous wastes under Annex VIII, does it automatically fall outside the scope of the Basel Convention?

- ***Not necessarily. There may be a national declaration of its being a hazardous waste.***

ANNEX II

SUMMARY OF OUTCOMES OF GROUP ASSIGNMENTS FOR SESSION 4: NEEDS, CHALLENGES AND OPPORTUNITIES FOR THE ENVIRONMENTALLY SOUND MANAGEMENT OF E-WASTES IN AFRICA

(i) Comments on the Technical Guidelines for Transboundary Movements of E-waste and Used EEE

A. Residual life time and age of used equipment

- ▶ No clear definition on ‘residual life’

B. Management of Hazardous Waste from Failure Analysis, repair & refurbishment in developing countries

- ▶ Collection & transportation of waste for failure analysis
- ▶ Move as a waste or as used equipment - It will be a liability if not considered waste since it might fail testing
- ▶ Entities might decide to move waste on the disguise of failure analysis

C. Obsolete Technology including Cathode Ray Tubes

- ▶ Africa should bridge the technology divide
- ▶ Defined obsolete
 - if hazardous not safe to bring them to Africa
 - if due to advanced technology then advantageous for Africa

D. Presence of Hazardous substance in used equipment

International limits on hazardous components should apply to Africa also.

(ii) PACE After PACE

- ▶ Commend PACE
- ▶ Request the COP to keep groups working on guidelines such as TBM of E-Waste on-going in their mandate
- ▶ PACE should complete the guidelines for the entire E-Waste not just computers within the time left
- ▶ Continuous trainings on manuals developed
- ▶ Look at other frontiers of E-waste apart from computers alone
- ▶ Partnership on funding for other E-waste such as TVs etc.
- ▶ Additional mandate

- ▶ PACE scope should be enlarged to include ICT and domestic appliances

(iii) Priority Actions for ESM of E-waste in Africa

- ▶ Policy, institutions and legislation development for E-Waste (Certification and standardization process, procedures,
- ▶ Capacity building – knowledge / technology transfer, awareness
- ▶ Infrastructure / facility development (effective collection system, transportation, recycling plant,
- ▶ Financial resources – adequate / sustainable funding

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ANNEX III

WORKSHOP AGENDA

Regional workshop on enhancing capacities for the environmentally sound management of waste electrical and electronic equipment (e-waste) through the regional delivery in Africa

DAY 1 – TUESDAY 20 th October 2015		
8:00 – 8:55	Registration	
8:55 – 9:00	Welcome and Call to Order	Prof. Oladele Osibanjo, Director, Basel Convention Coordinating Centre (BCCC), Nigeria
Morning session	Opening remarks	<p>Matthias Kern, Senior Programme Officer, Secretariat of the Basel, Rotterdam and Stockholm Conventions</p> <p>Mr. Lawrence Chidi Anukam, Director General, National Environmental Standards and Regulations Enforcement Agency (NESREA), Federal Ministry of Environment, Nigeria</p> <p>Ms. Zoe Nautre, First Secretary, Embassy of the Federal Republic of Germany</p> <p>Livingstone Sindayigaya, MEAs Project Coordinator, African Union Commission, Addis Ababa, Ethiopia</p> <p>Honorable Minister of Federal Ministry of Environment, Nigeria</p>
	Objectives of the workshop and participants' introduction	Prof. Oladele Osibanjo, moderator
10:30 – 11:00	Group Photo & Coffee Break	
Session 1: Introduction to the issue of waste electrical & electronic equipment (e-waste)		
Morning session	The global issue of e-waste	Prof. Oladele Osibanjo, Director, BCCC-Nigeria
	Challenges and opportunities for the environmentally sound management (ESM) of e-waste in the African context	Tatiana Terekhova, Programme Officer, Secretariat of the Basel, Rotterdam and Stockholm Conventions

	Hazardous substances in the electrical & electronic equipment as SAICM emerging policy issue	Muhammed Omotola, Programme Officer, SAICM Secretariat
	Questions and answers	All participants
12:30 – 14:00	Lunch	
Session 2: Environmentally sound management of e-waste in the African context		
Afternoon session	Collection systems and environmentally sound testing, refurbishment and repair e-waste and used electrical and electronic equipment	Mr. Lawrence Chidi Anukam, moderator
	1) Brief overview of environmentally sound testing, refurbishment and repair e-waste and used electrical and electronic equipment	Willie Cade, CEO PC Rebuilders & Recyclers (remotely)
	2) Case study on environmentally sound testing, refurbishment and repair e-waste in Lagos	Kayode Bello, Lagos State Environmental Protection Agency (LASEPA), Nigeria
	3) Case study on collection system as a business model in Burkina Faso	Abou Traore, Ministry of Environment and Fishery resources, Burkina Faso
	4) Case study on collecting e-waste and the role of the informal sector	Speaker to be confirmed
	Group exercise on environmentally sound testing, refurbishment and repair e-waste and used electrical and electronic equipment	All participants Facilitators of the working groups: - Michel Seck, BCRC-Senegal - Mostafa Kamel, BCRC-Egypt - Taelo Letsela, BCRC-South Africa
17:30 – 18:00	Wrap up of day 1	Mr. Lawrence Chidi Anukam, moderator
19:00 – 20:30	Welcome Reception – Golden Tulip Hotel	
DAY 2 – WEDNESDAY 21TH October 2015		
Session 2: Environmentally sound management of e-waste in the African context (cont.)		

Morning session	<p>Environmentally sound material recovery and recycling of e-waste and used electrical and electronic equipment</p> <ol style="list-style-type: none"> 1) Brief overview of environmentally sound material recovery and recycling of e-waste and used electrical and electronic equipment 2) Actions on hazardous substances in recovery and recycling of e-waste and used electrical and electronic equipment 3) Case study on environmentally sound material recovery and recycling of e-waste and used electrical and electronic equipment in Lagos 4) Case study on technology transfer for environmentally sound material recovery and recycling of e-waste and used electrical and electronic equipment 5) South-south cooperation: lessons learned from the environmentally sound material recovery and recycling in Asia 	<p>Taelo Letsela, BCRC-South Africa, Moderator</p> <p>Matthias Kern, Secretariat of the Basel, Rotterdam and Stockholm Conventions</p> <p>Muhammed Omotola, SAICM Secretariat</p> <p>Lagos State Waste Management Authority, (LAWMA) Nigeria</p> <p>Georgina Killikelly, Dell</p> <p>Narendra Singh, BCRC-China</p>
	<p>Group exercise on the environmentally sound material recovery and recycling of e-waste and used electrical and electronic equipment</p>	<p>All participants</p> <p>Facilitators of the working groups:</p> <ul style="list-style-type: none"> - Michel Seck, BCRC-Senegal - Muhammed Omotola, SAICM Secretariat - Ms. Fatoumata Jallow Ndoeye, Coordinator, African Union Commission
12:30 – 14:00	Lunch	
Session 3: Transboundary movements of e-waste and used electrical and electronic equipment		
Afternoon session	<p>Transboundary movements of e-waste and used electrical and electronic equipment</p> <ol style="list-style-type: none"> 1) Brief overview of the technical guidelines on transboundary movements 2) Transboundary movements of e-waste: case study in South Africa, Namibia and Lesotho 3) Case study on EU-Africa cooperation on enforcement 	<p>Mostafa Kamel, BCRC-Egypt, moderator</p> <p>Tatiana Terekhova, BRS Secretariat</p> <p>Taelo Letsela, BCRC-South Africa</p> <p>Kevin Mercieca, European Union Network for the Implementation and Enforcement of Environmental Law (IMPEL)</p>

	4) Experience on enforcement of Basel Convention and prevention of illegal traffic in Nigeria	Mr. Lawrence Chidi Anukam, NESREA
	Group exercise on transboundary movements of e-waste and used electrical and electronic equipment	All participants Facilitators of the working groups: - Michel Seck, BCRC-Senegal - Muhammed Omotola, SAICM Secretariat - Ms. Fatoumata Jallow Ndoye, Coordinator, African Union Commission
17:30 – 18:00	Wrap up of day 2	Mostafa Kamel, BCRC-Egypt, moderator
END OF DAY 2		
DAY 3 – THURSDAY 22nd October 2015		
Morning session	National legislation on e-waste in Africa 1) Addressing e-waste issues in the Basel Convention 2) Case study on developing national legislation on e-waste in Ghana 3) Case study on developing national legislation on e-waste in Kenya (4) Green industry: engaging the e-waste sector in Nigeria – UNIDO’s approach.	Prof. Oladele Osibanjo, moderator Tatiana Terekhova, BRS Secretariat Felix Mote, Environmental Protection Agency, Ghana Immaculate Naliaka Simiyu, National Environment Management Authority, Kenya Oluyomi Banjo, UNIDO Regional Office, Abuja, Nigeria
Session 4: Needs, challenges and opportunities for the environmentally sound management of e-waste in Africa		
Morning session	Discussion in the working groups: needs, challenges and opportunities for ESM of e-waste in Africa - Comments on the Technical Guidelines Transboundary movements of e-waste and used electrical and electronic equipment - PACE after PACE - Priority actions for ESM of e-waste in Africa	Prof. Oladele Osibanjo, moderator Facilitators of the working groups: - Michel Seck, BCRC-Senegal - Mostafa Kamel, BCRC-Egypt - Taelo Letsela, BCRC-South Africa

12:30 – 14:00	Lunch	
Afternoon session	Discussion in the working groups: needs, challenges and opportunities for ESM of e-waste in Africa (cont.)	All participants
	Quiz	All participants
	Conclusions and recommendations	Prof. Oladele Osibanjo
17:00-17:30	Certificates and closure of the workshop	Prof. Oladele Osibanjo
END OF DAY 3		
DAY 4 – FRIDAY 23rd October 2015		
Session 5: Field visit to e-waste sites		
09:00 – 18:00	Field visit	
CLOSURE OF WORKSHOP		

Note: there will be coffee breaks during each morning and afternoon sessions.

ANNEX IV

LIST OF PARTICIPANTS

TOTAL NUMBER OF PARTICIPANTS: 100

- I. Governments: 42
- II. Private Sectors: 9
- III. NGOs and Research Institutes: 27
- IV. Regional Centres: 9
- V. UN Organizations/IGOs: 13

I. GOVERNMENTS

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