PROJECT OUTLINE

THE ENVIRONMENTALLY SOUND MANAGEMENT OF ELECTRICAL AND ELECTRONIC WASTE IN THE PACIFIC ISLAND COUNTRIES AND TERRITORIES

SUMMARY

A proposal is presented for the implementation of a four-year programme to address the critical issues associated with the rapid expansion of e-waste throughout the world and their environmentally sound management. The Program is presented by the Basel Convention Secretariat jointly with its Regional Centre in the Pacific, with UNEP and other relevant organizations in the region. The program aims to address the key obstacles to the environmentally sound management of e-waste in the Pacific Islands region. It will support local initiatives to divert end-of-life equipment from landfills towards sustainable reuse and recycling operations, in a way that the economic benefits of sustainable management are derived, while human health and the environment are protected. As a practical initiative, it is designed to strengthen national and regional implementation of the Basel Convention with due regard to existing relevant international obligations. The program will thus provide an assessment of the regional situation on e-wastes, provide tools to develop policies for re-use, repair, refurbishment and recycling and build capacity to implement these policies in partnership with Parties in the region, industry and local NGOs. The program aims at raising public awareness on the environmentally sound management of used and end-of-the electrical and electronic equipment and is budgeted at US$2,653,000.

I. INTRODUCTION

1. In recent years, significant international trans-boundary movement has evolved in used refrigerators, other electrical appliances, personal computers and associated hardware, used electronic equipment and used cellular telephones for the removal of usable parts, for refurbishment and reuse and for processing for the recovery of raw materials. Import and export statistics provided globally by Parties to the Basel Convention for the year 2000 show that there were imports of more than 17.5 million tonnes and export of 1.6 million tonnes designated as used electrical and electronic assemblies or scrap. Trans-boundary movement of these goods is forecast to increase significantly as more and more countries produce or assemble electrical and electronic equipment and tighten control over acceptable disposal methods, adopt processes to recover valuable constituents and use safe practices to deal with the hazardous constituents in e-wastes (e.g. cadmium, lead, beryllium, CFCs, brominated flame retardants, mercury, nickel and certain organic and organo-metallic compounds). While offering some economic benefits, massive import of e-wastes coupled with the same wastes being generated locally is placing a heavy health and environmental burden, in particular to developing countries.

2. Electrical and electronic wastes are classified in the Basel Convention as Annex VIII entries A1180, A1150 and A2010 as well as under Annex IX as B1110. Basically, e-wastes are characterized as hazardous wastes under the Convention when they contain components such as accumulators and other batteries, mercury-switches, glass from cathode-ray tubes and other activated glass, PCB-capacitors and transformers or when contaminated with cadmium, mercury, lead or PCBs. Also, precious metal ash from incineration of printed circuit boards and glass waste from cathode-ray-tubes and other activated glasses will be characterized as hazardous wastes. In order to address environmental issues related to the increasing trans-boundary movements of these wastes, and to ensure their storage, transport, treatment, reuse, recycling, recovery and disposal is conducted in a coordinated and environmentally sound

manner, a proactive approach is essential. Through concrete and well-targeted national and regional efforts supported by the Secretariat of the Basel Convention, its regional centres and other partners, these wastes can be managed in a manner that promotes economic, social as well as environmental objectives.

II.   BACKGROUND

3.   The electrical and electronic equipment sector is largely a globalised industry with the production and their assemblage being increasingly outsourced to industrializing countries; this is particular relevant for China, India, Malaysia, the Philippines, Thailand and Viet Nam. The environmental and health effects associated with the fast growing volume of e-wastes, whether in a form of post-consumer goods or end-of-life equipment imported or generated domestically, requires the development of sound capacity to prevent, minimize, re-use, recycle or recover materials from such wastes and to dispose of the residues arising from these operations. Awareness about these new developments is key to assist national and regional authorities to respond to this emerging issue through the development of new environmental regulations, the building of partnerships with industry and the consideration of policies on life-cycle approach, integrated waste management and cooperation and sharing of information at the regional level. In order to understand this problem further, a Scoping Workshop on the Environmentally Sound Management of Electronic Waste was organized in Tianjin, China, in November 2002.

4.   The countries in Asia and the Pacific Parties to the Basel Convention have identified e-waste as a priority. They emphasized the need to obtain the latest and relevant information on environmentally sound management of e-waste, inclusive of information regarding know-how on cleaner technologies or processes used in the repair, refurbishment, recycling or recovery of used or end-of-life electrical and electronic equipment.

5.   Numerous obstacles have been identified by countries in regard to their ability to manage e-wastes in an environmentally sound way. These include:

> *Lack of easily accessible information (on flows, quantities, available technology, legislative/trade requirements of countries importing new products, who will require increasingly strict standards for minimization and re-use, recycling and recovery.)*

> *Lack of trained personnel*
>   - Weak or insufficient enforcement
>   - Lack of technical capacity for environmentally sound management
>   - Lack of awareness and capacity of small-to medium-size enterprises to deal with e-wastes
>   - Lack of trained personnel both in the public and private sectors

> *Legislation*
>   - Lack of or inappropriate legislation
>   - Lack of clarity regarding export/import rules for e-wastes
>   - Lack of regional level-playing field

> *Lack of infrastructure*
>   - Inadequate infrastructure for collection, recycling and recovery
>   - Lack of sound handling and processing during sorting, repair, refurbishment, recycling for material recovery operations to prevent risks to workers, general public and the environment
>   - No coherent programme on e-waste

➢ *Lack of public awareness*
  - Unsustainable patterns of consumption and production
  - Lack of or insufficient awareness in all sectors of society of the potential harmful effects of substances in these equipment and unsound management of e-wastes
  - Lack of economic alternatives to activities carried out by the informal sector and small family repair shops

III. OBJECTIVES

6. To respond to the needs and concerns expressed by countries in Asia and the Pacific, the Secretariat of the Basel Convention in partnership with the Basel Convention Regional Centres, UNEP and other organizations, has developed a programme in pursuance to decision VII/3 adopted by the seventh meeting of the Conference of the Parties, for which financial support is sought. The goal is to ensure that e-waste generation in the region is minimized and what is generated is managed in an environmentally sound manner consistent with the Basel Convention and with other international obligations, with consequent benefits both to the environment and economies of participating countries. To achieve this goal, the program's overall objectives are to develop and conduct baseline studies and action plans (regional and national guidelines and strategies); to establish a knowledge base on good practices; set-up and nourish a public/private partnership; initiate pilot schemes on collection, repair, refurbishment and recycling and built awareness and capacity building. The specific objectives of the programme are:

a) To establish a knowledge management system both at the national and regional levels,

b) To provide information online to countries and other stakeholders on the current situation in Asia and the Pacific regarding generation, export and import of e-wastes; the nature and characteristics of such wastes exported/imported; their quantity, destination in the case of export; and fate (e.g. re-use; repair; refurbishment and reuse; recycling for material recovery; landfilling; incineration; dumping etc);

c) To establish sustainable partnership between governments, industries, municipalities and non-governmental organizations to promote the environmentally sound management of used and end-of-life products and equipment that would:
  - support local initiatives,
  - achieve better product stewardship,
  - influence consumer behaviour towards more environmentally friendly actions, and
  - promote the best repair/refurbishment /recycling/disposal options;

d) To conduct pilot schemes for the identification, collection and segregation of e-wastes with a view to their sound re-use, repair refurbishment, recycling for material recovery or final disposal;

e) To conduct pilot schemes on the recycling of e-wastes, in particular regarding personal computers and mobile phones;

f) To develop national normative framework for the environmentally sound management of e-wastes based on the outcome of the pilot projects, including the most appropriate policy strategies to regulate import of such wastes; and

g) To develop and implement public awareness and education campaigns on environmentally sound management of e-waste including information on

occupational health and safety procedures as well as on appropriate standards for collection, segregation, transportation, re-use, repair, refurbishment, recycling for material recovery and final disposal.

IV.   OUTPUTS

7. The following short-and long-term outputs are identified:

Short-term (2006-2007)
- Inventory of selected types of e-waste generation, imports and exports completed in at least 10 Pacific Island countries and territories
- Information system or network is operational on the environmentally sound management of e-wastes in Asia and the Pacific, including information generated through the pilot schemes
- Training for government officials on environmentally sound management
- Guidance manuals, and information collected on e-waste, are used to prepare national plans and in turn the regional plans
- Selected sustainable partnership between governments, industries and non governmental organizations established
- Public/private initiatives are being launched regarding the collection and segregation of e-wastes
- Legislative framework is developed or revised
- Awareness of the public is enhanced.

Long-term (2008 – onward)
- Enforcement of existing or new legislation is strengthened
- Education programmes are launched in schools
- Public/private partnerships are enhanced on several aspects of environmentally sound management of e-wastes
- Sound collection schemes are in place and functioning at a local level (in several municipalities)
- Repair, refurbishment, and recycling facilities are identified and up-graded to regional and international standards
- Database on sound technologies or processes for re-use, repair, refurbishment, recycling and final disposal of e-waste is established and operational
- Support from bilateral and multilateral financial institutions for the environmentally sound management of e-waste is accessible
- Regional and international conference with equipment and services exhibition on environmentally sound management of e-waste has taken place.

V.   PROJECT DETAILS

Country's specificities

8. Based on common objectives, a flexible approach is required to address the variety of situations in regard to the experience of the countries, the characteristics of the local manufacturing electronic industry, the structure of the economic sector responsible for re-use, repair and refurbishment, the quantity of e-wastes imported, the overall waste management infrastructure, policy response, level of awareness of policy makers, industry, operators and customers, and the legal, economic and financial system in place in regard to the second-hand market, in particular the role and structure of the small-and-medium sized enterprises. A priority is to develop national policies for stimulating collection, re-use, repair, refurbishment, recovery and recycling of e-wastes whether generated locally or imported with the effect of

supporting the local economy while improving health and environmental protection. The effective involvement of all relevant public and private stakeholders is essential to progress. Improved data collection on generation, import and export, on destination of used and end-of-life equipment going for re-use, repair (major or minor repair), refurbishment, recycling, dumping in landfills is part of the programme.

Collection of e-wastes

9. Collection of e-wastes is the corner stone for the sound management of such wastes. In many developing and rapidly industrializing countries there is, in addition to the import of e-wastes, the generation of such wastes domestically. In order to establish a local environmentally-friendly market for the recycling, repair, re-use and refurbishment of certain types or categories of e-wastes, it is essential to encourage customers to bring back their used and end-of-life equipment to collection points and to develop a system of financial incentive or other relevant economic instruments to accompany such collection schemes and involve local NGOs in awareness raising activities. Both local and international information technology manufacturers should be involved in the process, including mobile phones manufacturers and telecom operators. Separation of hazardous from non-hazardous components will be necessary in places where such material is not sent in copper or other smelters. Hazardous components will need to be processed in a way to protect human health and the environment.

Small repair and refurbishment shops

10. The handling of e-waste is in its infancy worldwide. Many developing and fast industrializing countries use sub-standard recycling and treatment processes for e-wastes. Family repair shops and other unregulated shops operate often in a complete legislative vacuum. The important involvement of a multitude of small family businesses in repair and refurbishment makes it difficult to understand the local market mechanisms. In the Pacific Islands region, this problem is not extensive as the communities are often small and practically everybody knows everybody. But it is important to build partnership with NGOs familiar with the local situation, with municipalities and local industry operators. Training for small businesses dealing with repair and refurbishment is critical. Improved local handling of e-wastes will support the local economy. It will provide alternative to the "grey" uncontrolled market. The purpose would be to improve and check the environmental, health and safety aspects in repair and refurbishment workshops. Appropriate and sound repair and refurbishment techniques and technologies should be promoted to cope with the increasing volumes of both e-waste imported and generated domestically. The project shall provide recommendations to national authorities regarding programs and policies that can be implemented to ensure that the recycling of e-wastes is conducted in an environmentally sound and economically efficient manner. Improved collection of e-wastes will benefit the local economy of re-use, repair and refurbishment and will also lead to the sound recycling of such wastes where such facilities exist and operate to standards.

Recycling of e-wastes

11. There are plans in some countries in Asia to develop recycling schemes for e-wastes whether imported or generated locally and to strengthen environmental standards and requirements for such facilities, in light of existing international obligations. Also, work on technology innovations and access to sound technologies is underway to eliminate sub-standard operations. Already, a number of national and foreign recycling companies operate in Asia. It is therefore necessary to review the current situation and needs in regard to recycling capacity for e-wastes in the region. Pilot recycling projects could be undertaken to either up-grade existing facilities or develop operations to disassemble and recondition for re-use of electronic component and processing machinery, to dismantle obsolete or end-of-life

electronic products, breaking them down into components parts, and separating these parts according to their hazardous and non-hazardous characteristics.

12. In the Pacific regions, a major obstacle is that the populations in each of the countries and territories are small and the volume of e-waste generated is not sufficiently large enough to warrant the establishment of a national recycling facility. It would make more sense to undertake a feasibility study to look at the possibility of establishing a regional recycling facility or establishing mechanisms where the used, obsolete or end-of-life electronic products can be moved trans-boundary (by shipping) for the purpose of recycling and/or disposing them in an environmentally sound manner.

VI. ACTIVITIES

13. The activities designed to implement the programme are meant to enhance and complement each other and are to be carried out by different stakeholders (see Section VII).

ACTIVITY 1: Regional inceptive workshop and information gathering

14. The purpose is to bring together major stakeholders (e.g. Governments, inter-governmental organizations, BCRCs, industry and businesses, NGOs, municipalities) to raise awareness, exchange information and share their experience in dealing with e-wastes. The idea is to set up a network on e-waste information which will feed one or more databases that would be accessible to national authorities, BCRCs, economic operators, United Nations bodies and other intergovernmental organizations, civil society, municipalities and academia. The project will include the establishment of a network on e-waste in Asia and the Pacific; review and finalize generic guidelines and methodologies for the undertaking and conduct of baseline studies including inventories at the national level; preparation of national, regional or sub-regional strategies for the handling of e-wastes; establishment of a knowledge base in the region on e-waste issues. The BCRCs, in particular the BCRC-China, will be a key delivery regional mechanism for the promotion of the network and the knowledge management system with the BCRCs-Pacific working closely to provide the information to the Pacific Island countries and territories. The regional workshop shall provide outputs regarding harmonization of reporting on e-waste issues e.g. generation, import/export; prevention; management; best practices; technology transfer; legal measures; administrative measures; training needs; awareness; gaps; estimation of the current status of e-waste; capacity- building needs to address current and forthcoming e-waste issues; promotion of quantitative data on e-wastes; and guidance for handling of e-wastes.

ACTIVITY 2: Detailed inventories in 10 Pacific Island countries and territories

15. The purpose of this project is to gather and complement the information base required to address the needs and to find solutions for the environmentally sound management of e-wastes. It is critical to understand the specificities of the second-hand market for e-wastes. Data on export/import of e-wastes destined for re-use, repair, refurbishment or recycling are required as well as on those going for controlled or uncontrolled disposal. The inventory should provide information on imported e-wastes and those generated domestically, their quantity, characteristics, physical forms and usability. It should also provide information on where e-wastes are being repaired or refurbished, whether these facilities are registered or part of the "grey" or informal sector, where e-wastes are being stored temporarily, how process residuals are being handled, how e-wastes are transported. The detailed inventory should help national authorities in identifying the environmental health and safety problems associated with the handling of e-wastes. Environmentally sound recycling practices will be identified: it will provide information on the substances of potential concerns in used or end-of-life equipment (e.g. lead, mercury, cadmium, chromium, beryllium, antimony, arsenic, copper, nickel, tin, zinc, cobalt, silver). The inventory will identify those unsound or uncontrolled

practices that should be abandoned (e.g. sub-standard combustion of organic components such as plastics, liquid crystals or halogens/flame retardants) as well as raising concerns with corrosives when shredding or breakage of e-wastes takes place (corrosive constituents contained in batteries such as potassium hydroxide or lithium ion). Finally, the inventory should assist in determining the problems of exposure to substances of concern in end-of-life management of e-waste through land disposal, waste incineration, metal recovery or plastic recovery.

ACTIVITY 3: *Pilot schemes on collection/segregation of e-wastes in 5 countries*

16.   This pilot project addresses the needs for the establishment of schemes that will encourage and facilitate the separate collection of e-wastes, their temporary storage and transportation (either in-country or trans-boundary) to repair or refurbishment workshops, or specialized facilities for processing and recycling, including disposal of the residues arising from such operations. It includes the initial sorting of collected e-wastes, separating those that can be reused (with or without repair or refurbishment) from those that are suitable for recycling for material recovery. The schemes, depending on the local situation, could be established in the form of voluntary or mandatory collection schemes. For such schemes, whether voluntary or mandatory, to operate successfully, it is proposed to establish collection points, consider financial issues (incentives, deposits, fees, etc) and develop awareness raising programmes aimed at target groups (e.g. schools; retailers; policy makers; refurbishing and repair shops; technical personnel) and information of the public at large through diverse media.

ACTIVITY 4: *Pilot repair/refurbishment and recycling schemes in 5 countries*

A. Repair/refurbishment

17. One preferred option for used electronic equipment is to prolong its life through reuse. In many cases e-wastes such as computers may require repair in particular those reaching the end-of-their useful life. A critical factor of refurbishment or repair is to improve the quality control over such work so that the environmental benefits of extended use will be truly achieved, as well as the protection of the health of workers, without compromising the possibility of economic return. The project will address the requirements of repair and refurbishment shops and will provide guidance for such operations, e.g. product handling; storage; cleaning; disassembly; soldering; reassembly; testing; and management of components and materials removed from used or end-of-life equipment, including guidance on handling of components destined for recycling for material recovery. The project will also address issues regarding the way to deal with process residuals, packaging and transport. Finally, it will cover administrative measures such as record keeping, environmentally sound management, regulatory authorization, personnel training, inspection and monitoring.

B. Recycling for material recovery

18.   A primary purpose of the project is to provide best practice guidelines for the environmentally sound recycling of end-of-life electronic equipment. It will address the issue of the recycling of the basic components of e-wastes, the adequacy of the recycling infrastructure and its capacity for handling the increasing volumes of both e-waste imported and generated domestically. The project should provide recommendations to national authorities regarding programmes and policies that can be implemented to ensure that the recycling of e-wastes is conducted in an environmentally sound and economically efficient manner, and is consistent with existing international obligations.

ACTIVITIES 5 and 6:　　*National training workshops in 5 countries and guidance for national plans*

19. Both projects will be derived from the information, know-how and experience gained through the implementation of Activities 1 to 4. The curriculum for training as well as the table of contents for the preparation of the guidance to develop national plans for the environmentally sound management of e-wastes will be based on the outcome of Activities 1-4.

ACTIVITIES 7 and 8:　　*Regional workshops on sound technologies and international conference on e-wastes*

20. It is proposed to organize two regional workshops, one in 2005 and one in 2006 in Asia and the Pacific respectively on the use of best practices and sound technologies/processes for the re-use, repair, refurbishment, recycling, recovery and final disposal of e-wastes. The meetings will provide an opportunity to get up-to-date with current practices and their descriptions; they will provide recommendations for improving processes for dealing with specific types of e-wastes (e.g. used or end-of-life computers, TV sets, radios, mobile phones) or their components (e.g. metals, plastics). The workshop will assist in identifying the type of local public/private partnerships that could be set up to improve practices regarding repair, refurbishment and recycling for material recovery. The workshops should also consider the economic dimension of the second-hand market and provide avenues for guaranteeing environmental and health protection while ensuring business profits. Local business and industry partners would include small-to-medium-sized enterprises, industrial recycling facilities, smelters, small family repair and refurbishment shops, electrical and electronic manufacturers, and transporters. The workshop will address the issues of testing of repaired or refurbished e-wastes, the need for certification schemes and environment/health/safety standards, as well as the legislative framework required to create a level playing-field. Transfer of proven and sound technologies that fit local specificities or geographical particularities will be discussed.

21. An international conference and exhibition on the environmentally sound management of e-wastes is planned for 2007. It will benefit from the pioneered work conducted in Asia and the Pacific. Its purpose will be to review ongoing international and regional initiatives launched on e-wastes. The Conference will address the development or use of standards for the environmentally sound repair, refurbishment and recycling of both used and end-of-life electrical and electronic equipment; it will also provide a forum for facilitating capacity building. The Conference, more specifically, will review ongoing or past successful collection and take-back schemes. It will also assist developing and fast industrializing countries to respond to innovations in OECD and other relevant fora regarding e-waste. The issue of the export and import of e-wastes in accordance with existing international obligations will also be discussed. Analytical qualitative and quantitative studies will support the work of the Conference. It is envisaged that the Secretariat of the Basel Convention will take care of this with he BCRC-Pacific assisting with the logistical arrangements for the Pacific Island participants.

VII. STAKEHOLDERS

22.   The complexity of e-waste issues required the effective involvement of several stakeholders at the national and regional level. The matrix below provides a résumé of the relationship between the different stakeholders.

ACTIVITIES	RESPONSIBLE ENTITIES	COOPERATING STAKEHOLDERS
OVERALL SUPERVISION AND RESOURCE MOBILIZATION	SBC	UNEP/ROAP, BCRCs (China, Indonesia, SPREP)
REGIONAL INCEPTION WORKSHOP ON ASSESSMENT OF INFORMATION NEEDS	UNEP/ROAP	BCRC (China, Indonesia, SPREP), SBC, intergovernmental organizations (e.g. UNEP/DTIE; UNU), Governments; NGOs; industry
DETAILED INVENTORIES	Governments with assistance from SBC	BCRC (China, Indonesia, SPREP), industry, NGOs
PILOT SCHEMES ON COLLECTION	Governments with assistance from SBC	BCRC (China, Indonesia, SPREP), industry, NGOs, municipalities
PILOT RECYCLING SCHEMES	Governments with assistance from SBC	BCRC (China, Indonesia, SPREP), industry, NGOs
TRAINING WORKSHOPS	BCRC (China, Indonesia, SPREP)	UNEP/ROAP, Governments, Industry, NGOs
PREPARATION OF GUIDANCE FOR NATIONAL PLANS	SBC	Governments, UNEP/ROAP, BCRC (China, Indonesia, SPREP)
PREPARATION OF INFORMATION ON KNOW-HOW TECHNOLOGIES APPROACHES, STANDARDS ON ESM OF E-WASTE	SBC	Governments, UNEP/ROAP, BCRC (China, Indonesia, SPREP)
ORGANIZATION OF INTERNATIONAL CONFERENCE	BCRC in China and Indonesia with assistance from SBC	UNEP/ROAP, Governments, industry, NGOs, BCRC-SPREP

23. The Pacific Island countries and territories covered under these proposal include: American Samoa, Commonwealth of Northern Mariana Islands (CNMI), Cook Islands, Federated States of Micronesia (FSM), Fiji, French Polynesia, Guam, Kiribati, Marshall Islands, Nauru, New Caledonia, Niue, Palau, Papua New Guinea (PNG), Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu, Vanuatu and Wallis & Futuna

24. The following countries are Parties to the Basel Convention:
   ➢ Federated States of Micronesia (FSM)
   ➢ Kiribati
   ➢ Marshall Islands
   ➢ Nauru
   ➢ Papua New Guinea (PNG)
   ➢ Samoa

25. The following countries are Parties to the Pacific regional Waigani Convention:
   ➢ Cook Islands
   ➢ Fiji
   ➢ Kiribati
   ➢ Federated States of Micronesia (FSM)
   ➢ Niue
   ➢ Papua New Guinea (PNG)
   ➢ Samoa
   ➢ Solomon Islands
   ➢ Tonga
   ➢ Tuvalu
   ➢ Vanuatu

26. The only Pacific Island country that is neither a Party to either the Basel or Waigani Conventions is Palau. The status of the Pacific Island territories with respect to their membership to both the Basel and Waigani Conventions is not clear at this point in time.

VIII. ORGANIZATIONAL MATTERS

27. In order to ensure the effective coordinated implementation of the programme, it is proposed to set up a Programme Steering Committee composed of representatives from the Secretariat of the Basel Convention, the BCRCs China, Indonesia and SPREP, UNEP/ROAP and other interested public or private stakeholders. Most of the work will be done through electronic exchanges and teleconferences. Occasionally, it may be necessary to organize face-to-face meetings.

Proposed Project Implementation Plan

Activities	2006												2007												2008												2009											
	F	M	A	M	J	J	A	S	O	N	D		F	M	A	M	J	J	A	S	O	N	D		F	M	A	M	J	J	A	S	O	N	D		F	M	A	M	J	J	A	S	O	N	D
Regional Workshop and Information gathering					■	■																																									
Detailed Inventories work						■	■	1	■		■		2	■	3																																
Pilot Scheme - Collection								■	■	4	■		5	■	■	6	■	■		7	■	8																								
Pilot Repair / Refurbishment													■	■	9	■	■	10		■	11	■	■	12	■	■	13	■	■	14	15															
National Training Workshops							■						■	■	■				■						■			■																		
Guidelines on ESM																	■	■	■	■	■																									
Regional Workshops / Technologies							■																																							
International Conference																																															
Final report for the Pacific e-waste project completed																																								■	■	■	■			

Notes:

1   -   Progressive report #1 due at the end of the month
2   -   Progressive report #2 due at the beginning of the month
3   -   Final project report due at the end of the month
4, 5, 6 and 7   -   Progress reports #1, 2, 3 & 4 due at the end of each month
8   -   Final project report due at the end of the month
9, 10, 11, 12 & 13   -   Progressive reports #1, 2, 3, 4 & 5 due at the end of each month
14   -   Progress report #6 due at the beginning of the month

15 - Final project report due at the end of the month

COST ESTIMATE

ACTIVITY 1 - **Regional workshop and information gathering**	Costs in US$
• Geographical coverage: **Asia/Pacific** • Number of participants: Approx. 110 (4-5 participants per country from Governments, industry, NGOs, municipalities). Several participants from United Nations and other intergovernmental bodies	

• Budget:
  -    Participation costs (travel/DSA for approximately 100 participants)
  -    Preparation of documents (and reproduction) in English and French
  -    Preparation of awareness materials
  -    Logistics (meeting room, photocopying, etc.)
  -    Secretariat support
  -    Travel of SBC staff (2 x)
  -    Miscellaneous
 	
                                                          Sub-total:
	160'000
	50'000
	10'000
	15'000
	10'000
	8'000
	5'000
	
	US$ 258'000

ACTIVITY 2 – Detailed inventory in 10 countries in Asia and Pacific	
• Depending on the size of the country, the development of a knowledge base on e-waste and the volume of e-wastes generated domestically or imported, the cost of such inventory can vary from US$ 50'000 to 150'000. **Sub-total:**	**US$ 1,000'000**
ACTIVITY 3 – Pilot schemes on collection in 5 countries	
• An average of US$ 100'000 is foreseen per country pilot project **Sub-total:**	**US$ 500,000**
ACTIVITY 4 – Pilot repair/refurbishment/recycling schemes in 5 countries	
• An average of US$90'000 is foreseen for each pilot project **Sub-total:**	**US$ 450'000**

ACTIVITY 5 – Training workshops in 5 countries	
• It is estimated that the costs of such national workshop will vary from US$20'000 to 40'000 depending on the number of participants **Sub-total:**	**US$ 175'000**
ACTIVITY 6 – Guidelines for national plans	
• Preparation of the guidelines • Reproduction/printing/translation (English/French) **Sub-total:**	20'000 10'000 **US$ 30'000**
ACTIVITY 7 – Two regional workshops on sound technologies	
• Regional workshop in the Pacific ✓ Estimated costs for participation, document report preparation, logistics/secretarial support, participation 1 staff member of SBC, miscellaneous **Sub-total:**	**US$ 160'000**
ACTIVITY 8 – International conference	
• It is estimated that about US$ 500'000 would be required as a minimum. Possibilities to get additional support financially or in-kind from industry and other stakeholders will be pursued. **Sub-total:**	**SBC to take care of this**
Miscellaneous (e.g. Establishment of data bases; meeting of steering committees) in the Asia-Pacific region **Sub-total:**	**US$ 80'000**
GRAND TOTAL:	**US$ 2,653,000**