

E-waste for Journalists

A guide to covering electrical and electronic waste in the Pacific



SPREP
Secretariat of the Pacific Regional
Environment Programme



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MESSAGE TO PACIFIC JOURNALISTS

Welcome to the “E-waste for Journalists” publication, a guide to reporting on Electrical and Electronic-waste in the Pacific, created to help Pacific news rooms cover the important issues of E-waste.

This publication provides information about E-waste and includes activities to help report on this important topic.

The Secretariat of the Pacific Regional Environment Programme (SPREP) and the United Nations Educational, Scientific and Cultural Organization (UNESCO) understand the important role of the media in the Pacific, to foster greater awareness of environment issues.

It is through this publication that we hope to see more information being shared about E-waste, which in turn will lead to a better informed community that brings about positive actions to achieve a more sustainable future.

We hope you enjoy using this publication and that through your efforts and good example our Pacific islands will take action to manage our E-waste and keep our islands safe and healthy for years to come.

David Sheppard
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What is E-waste?

E-WASTE EXAMPLES

The variety of products qualifying as E-waste is diverse, as are the life-spans and optimal end-of-life management options for different products. E-waste consists of expensive and more or less durable products used for data processing, telecommunications or entertainment or in private households and businesses.

It can include: tablet personal computers, laptops, entertainment electronics (such as radios, speakers), mobile phones, photo copying and fax machines, scanners, printers, notepads, television screens and DVD players.

FURTHER INFORMATION:

www.experiencefestival.com/a/E-waste_-_Definition_of_e-waste/id/1344878

- In two minutes, name the electronic products you use in the home or at the office. What was done with older equipment that is no longer used?
- Reporters can collect images of E-waste as they come across them and store them in a file for use each time a story on E-waste is produced so you have a wide variety of images to choose from.
- You could put out a call to your audience to phone your newsroom whenever someone in your community comes across discarded E-waste so you can report it in your news.

E-waste is electrical and electronic equipment at the end of its useful life. This covers home or business items that use power, for example TVs, radios, computers, phones, batteries, light bulbs, cameras, freezers, air-conditioning, scanners, printers etc..

Pacific Island communities face growing challenges from the impacts of E-waste.

These items can be refurbished, either by repairing the item for further use or by recovering the more useful parts.

Huge volumes of material are being discarded which need to be stored or disposed of safely. Even items in good condition may be discarded due to changes in what consumers prefer, newer technology, competition and pricing.

Pacific island countries have limited technical and financial resources to properly address the issue, which makes it more difficult.

The handling of E-waste is linked to the need for much better waste management in the Pacific. Many components from E-waste can be recovered and re-used, but this option is not always practical or affordable for island communities.

Within the region, there are few well designed facilities or plans in place for recycling or component separation and/or recovery. Where recycling does take place, much of it is informal and falls short of the standards for best practice.

E-waste is often buried, burnt or dumped. The space taken up by E-waste is a big issue on small islands where land is scarce and water sources are vulnerable – the rubbish is also unsightly.

A major concern is the less visible, yet very harmful, substances used in the manufacture of electronic products. These include heavy metals and other toxic materials which can harm our environment and our health.

The challenges posed by E-waste affect the quality of life in the Pacific.

E-waste can be safely recycled or reused. However this requires high standards to fully protect the welfare of Pacific people and their environment, and forward planning by the government and Pacific Island communities.

Legal Implications of E-waste

BASEL CONVENTION

In the late 1980s, a tightening of environmental regulations in industrialized countries led to a dramatic rise in the cost of hazardous waste disposal. Searching for cheaper ways to get rid of the wastes, "toxic traders" began shipping hazardous waste to developing countries and to Eastern Europe. When this activity was revealed, international outrage led to the drafting and adoption of the Basel Convention.

During the first decade (1989-1999) the Convention was principally devoted to setting up a framework for controlling the "transboundary" movements of hazardous wastes, that is, the movement of hazardous wastes across internal frontiers. It also developed the criteria for "environmentally sound management." During 2000-2010, the Convention built on this framework by emphasizing full implementation of enforcement of treaty commitments. The other area of focus was the minimization of hazardous waste generation. Recognizing that the long term solution to the stockpiling of hazardous wastes is a reduction in the generation of those wastes, both in terms of quantity and hazardousness – the meeting in December of 1999 set out guidelines for the Convention's activities during the next decade, including:

- Active promotion and use of cleaner technologies and other production methods;
 - Further reduction of the movement of hazardous and other wastes;
 - The prevention and monitoring of illegal traffic;
 - Improvement of institutional and technical capabilities- through technology when appropriate- especially for developing countries and countries with economies in transition;
 - Further development of regional and sub regional centres for training and technology transfer
- For further reading visit Basel Convention website: <http://basel.int/convention/basics.html>

WAIGANI CONVENTION

The Convention to Ban the Importation into Forum Island Countries of Hazardous and Radioactive Wastes and to Control the Transboundary Movement and Management of Hazardous Wastes within the South Pacific Region opened for signature in Waigani, Papua New Guinea in 1995 and entered into force in 2001. SPREP serves as the Convention's Secretariat while the Secretary General of the Pacific Islands Forum Secretariat serves as Depositary.

WHO ARE ITS PARTIES?

The Convention is open to all Pacific island Forum countries.

As of February 2012, there are 13 Parties: Australia, Cook Islands, Federated States of Micronesia, Fiji, Kiribati, Nauru, New Zealand, Niue, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu. France, Marshall Islands, United Kingdom and the United States are eligible to join the convention but have not yet done so. Palau signed the convention in 1995 but has yet to ratify.

WHAT IS THE PURPOSE OF THE CONVENTION?

The Convention is designed to:

- reduce or eliminate transboundary movements of hazardous and radioactive wastes into and within the Pacific Forum region;
- minimize the production of hazardous and toxic wastes in the Pacific Forum region;
- ensure that disposal of wastes is done in an environmentally sound manner and as close to the source as possible; and
- assist Pacific island countries that are Parties to the Convention in the environmentally sound management of hazardous and other wastes they generate.

FURTHER READING: SPREP's library and publications: www.sprep.org/publication/pub_detail.asp?id=129

SPREP Factsheet on the Waigani Convention: <http://www.sprep.org/factsheets/waigani/factsheetwc001.htm>

SeaNet: http://seanet.org.nz/index.php?option=com_content&task=view&id=132&Itemid=75

Pacific Island countries have legal frameworks which aim to protect public health and the environment.

These laws include the promotion of good waste management, but they may lack direct references to E-waste.

The starting point for updating legislation is public discussion.

Wider awareness is needed of the opportunities, and obstacles, relating to E-wastes and their impact on our communities.

Such reviews should also take account of international and regional agreements – such as the Basel and Waigani Conventions – where countries agree to avoid or minimise actions that harm the environment and public safety.

The legal implications of E-waste extend to Pacific regional trade agreements.

The trade rules should be flexible enough to allow for the export of scrap metal and the trade of recycled parts and reusable goods. These rules should also discourage the export of E-waste to developing countries, as they are less able to manage the requirements for safe disposal.

At the community level, the guidelines need to encourage consumers and businesses to play a leading role in safe disposal of E-waste, and not make it harder for them to do a good job.

There is a great need for better information on the trends for consumer goods in the Pacific, and what happens to them during their life cycle. What is known is that Pacific consumers are going through an increasing volume of electronic goods every year.

- How effective are the rules in your country for dealing with E-waste?
- Select any waste management business in your area, and ask them how existing laws help, or hold back, their work.
- Reporters could conduct a street poll or collect vox pops asking members of the community for their opinion on the legislation needed to address E-waste.
- Your newsroom could do a story to showcase a local business that has put in place E-waste disposal systems for their products.

Social Implications of E-waste

- Throwing away used items is the most common option for E-waste. Follow the trail from a rubbish pickup to the local dump, and write about the lessons learned.
- Conduct an internal survey in your news room. Find out what electronic products are in the household of each member in your news room.
- Is there a registry list with your Customs Office that lists how many televisions and computers have entered into your country? Perhaps you could follow this up and produce a story on this?

A growing demand from consumers, along with mass marketing, has seen electronic and electrical products reaching into every Pacific Island community.

This has created social benefits as well as challenges.

The easier access to computers, radios and TVs and other items has helped with programmes in education, health, social and economic development.

The increasing volume of electronic and electrical goods has been matched by a similar increase in surplus items which find their way into storage, rubbish dumps, recycling, repair work and illegal dumps.

A popular form of business in the Pacific is the used goods market.

By reusing products, instead of breaking them down completely for parts, the life span is extended. This reduces the demand for newer and more expensive products - it also provides cheaper options for consumers who might not need or want the latest equipment and reduces the environmental footprint of a community.

Developing countries are more likely to try and reuse, repair or recycle surplus goods if there is a strong enough incentive to do so. The alternative is to store or, more likely, throw away the items.

The cost of labour for recycling or repair is relatively low in the Pacific. An important consideration for the workers and their families is that the health and safety standards in developing countries also tend to be weaker.

More work is needed to improve waste management approaches in the Pacific.

This will require cooperation with other partners such as members of the public, officials and business people. For example, suppliers of computers and other electronic goods should be involved in any collection and disposal schemes, as they are a key avenue for the supply, and potentially the collection of these items.

A properly managed waste management programme requires funding through a user-pays system and expertise to be sustainable.

Good waste management will ensure Pacific people and their environments will have a more secure and healthier future.

Economic Implications of E-waste

VALUABLE E-WASTE

Electrical and electronic equipment contain valuable substances (such as gold, silver, platinum, palladium & scarce materials like indium and gallium) – most of which are found in printed circuit boards & newer technology such as flat screens and photovoltaics.

www.keysglee.com/index.cfm/news/valuable-substances-in-e-waste/

ACTIVITIES

- Recycling parts, or repairing goods for further use, is a small but growing industry in the Pacific. Find a local business or community group that promotes recycling or repair work. Tell their story.
- Brainstorm a list of electronic experts in your area and ask them to be your contact points and resource people to interview on the topic of recycling or repairing electronic goods.

The Pacific Islands have very few manufacturing industries, especially in the smaller island states. The trade in consumer items is mainly based on imports, with the business sector focused on resale and services.

There are some businesses involved in repairs, recycling, and upgrading of surplus equipment for use by other consumers. For recycling and reuse to be a good option, the cost and convenience of doing so must be reasonable.

Efforts to manage waste in an organised way in the Pacific have primarily been for collection and transport to local rubbish dumps. More recently, recyclers have tried to recover the valuable resources inside discarded items e.g. copper wires, aluminium, metal frames, glass and reusable plastics.

The different options for extending the life span of electronic goods can help to create jobs, transfer skills and generate income. In doing so, traders and consumers need to be more aware of the value of materials contained in E-waste, as well as the hazardous nature of substances found in consumer items and the risks associated with their disposal or recycling.

The export of E-waste from developed countries is sometimes criticised as simply transferring the problem to developing countries, where labor is cheaper and health and safety standards are weaker.

Others believe that activities associated with E-waste trade, such as refurbishment and shipping for recycling helps to support jobs and skills, as well as provide more affordable access to computers and services such as the Internet.

Good data on E-waste trends and trade in the Pacific is very limited. Experience in other areas suggests very little may be recycled - most of it will be buried or burnt.

Pacific communities generally lack the expertise, funding and safety standards to make best use of their E-waste. This situation can be improved through better education, planning and introduction of the user pays principle to fund disposal of end of life electrical and electronic equipment.

Wider awareness of how E-waste affects us will help to change our attitudes towards waste management.

Health Implications of E-waste

HAZARDOUS MATERIALS

Below is a list of hazardous or toxic components of E-waste and where they may be found:

- Antimony trioxide - a flame retardant, added to cathode ray tube monitor (CRT) glass, found in printed circuit boards and cables
- Arsenic - in older cathode ray tubes and in light emitting diodes
- Barium - in the CRT
- Beryllium - often allied with copper to improve copper's strength, conductivity and elasticity. Old motherboards, contact springs found in printed circuit boards, relays, and in the mirror mechanism of laser printers. In power supply boxes which contain silicon controlled rectifiers and x-ray lenses
- Cadmium - circuit boards and semiconductors Rechargeable NiCd-batteries, fluorescent layer (CRT screens), printer inks and toners, photocopying-machines (printer drums)
- Chlorofluorocarbon (CFC) - Cooling unit, Insulation foam
- Chromium - in steel as corrosion protection, Data tapes, floppy-disks, circuit boards, photocopying-machines (printer drums)
- Cobalt - component in steel for structural strength and magnetivity
- Lead - cathode ray tubes, solder, batteries, printed wiring boards (circuit boards), solder on components
- Lithium - batteries
- Mercury - switches (mercury wetted) and housing, fluorescent lamps providing backlighting in liquid crystal displays (LCDs) for monitors and laptops, batteries, printed circuit boards
- Nickel - batteries, electron gun in CRT, printed circuit boards
- Persistent Bioaccumulative Toxins (PBTs) are highly toxic, long-lasting substances that can build up in the food chain to levels that are harmful to human and ecosystem health. They are associated with a range of adverse human health effects, including effects on the nervous system, reproductive and developmental problems, cancer, and genetic impacts.
- Polybrominated flame retardants (including polychlorinated biphenyls (PCB), polybrominated biphenyls (PBB), Polybrominated diphenyl ethers (PBDE), and tetrabromo bis-biphenol-a (TBBA)) - plastic casings, cables, and circuit boards, condensers, transformers
- Polyvinyl chloride (PVC) - Cable insulation
- Selenium - circuit boards as power to supply rectifier, photocopying-machines (printer drums)
- Zinc - interior of CRT screens, printed circuit boards

- Ask your local medical staff about the (potential) health impacts of E-waste. Share their views with your audience.
- As a news team brainstorm the different types of stories that you can do on the health implications of E-waste.
- Raise awareness through a story on the impacts of E-waste that is not disposed of properly and how the different chemicals can be absorbed into soils or the atmosphere. You may want to interview people from your Ministry of Agriculture or the Environment Service.

FURTHER READING:

http://ohioewaste.com/hazardous_materials%20.html

Earth911.com

www.dnr.state.wi.us/org/water/greatlakes/priorities/toxins.html

E-waste often contains hazardous materials such as lead, cadmium, PCBs and mercury.

These pose little risks for consumers when housed in well designed containers such as computer cases. However, they become more of a threat when the equipment is thrown away or primitively broken down to recover parts.

The potential impacts on our health include higher risks of some cancers, nerve and organ damage, learning disabilities, birth defects, reduced fertility, and damage to our senses such as sight and hearing.

Health risks come from direct contact with the hazardous materials in the E-waste if it is burnt and vaporised or through contact with contaminated soils, and polluted air and water.

The risks are a particular concern for people in developing countries who know less about the health risks and often lack the proper health and safety standards.

The most vulnerable members of the community are the urban poor, women and children. Exposure to materials such as lead can interfere with the normal physical and mental development of babies and young children.

Poorer neighbourhoods often have poorer health outcomes and are less able to deal with pollution and waste.

Pacific communities face long-term risks from E-waste through exposure to hazardous substances that remain in the soil, water and air.

Some substances, such as persistent bioaccumulative toxins remain for very long periods in the environment and also accumulate in living tissues. They increase in concentration along the food chain and are very harmful to our health.

The effects on people's health often take many years to emerge.

Countries will sometimes ban substances, or goods containing them, due to the health risks. Or, tight restrictions may be placed on their use.

An important step is also to ensure that appropriate standards are maintained for imported equipment.

However, these measures are not enough on their own.

The most important tools for tackling the health issues related to E-waste are public awareness and effective waste management plans.

Environment

Implications of E-waste

- Pacific Islands import a growing volume of electronic goods. Gather data on trends over time and report it.
- What changes has E-waste made to the environment in your home, office and community?
- Develop an article based on your experiences with E-waste. Maybe your article can share information as to what communities can do with their E-waste, explain who can be contacted in your country for more information on E-waste and list the dangers to communities and your environment when you dump E-waste.

PACIFIC E-WASTE

A REGIONAL STRATEGY AND ACTION PLAN

The regional E-waste strategy:

- provides information on health risks associated with E-waste;
- Provides guidance on best practice in E-waste handling and disposal options
- Describes an integrated framework to progressively collect, store and dispose of E-waste in the Pacific Region;
- Presents a draft of a model National E-waste Management Policy for further discussions and consultations prior to national adoption and;
- Supports co-ordination and capacity building in hazardous waste management

The strategy is supported by an action plan (2011-2015) which presents a five year timeframe and framework in which to improve regional E-waste management. Appropriate public consultation will ensure that acceptable, cost effective options are utilized in any future disposal actions for E-waste.

Pacific Islands are gathering E-waste much faster than they can safely get rid of it, and this is affecting their environment.

More support for better waste management is needed. Failure to act, or acting too slowly, is having a serious impact on Pacific communities and their environment.

This is evident from the pollution that has already found its way into Pacific soils, waterways, ocean and air.

E-waste is part of the bigger problem of waste management, and is one of the fastest growing areas for discarded home and business products.

Some of the damage to the environment and public health goes back many years.

Hazardous substances and toxic materials are often used in the manufacture of electronics. These may pose a threat long after they are thrown away.

The impact on the environment from these polluting materials includes polluted air; contaminated soils which lower land values and reduce productivity; unsafe water for drinking, and toxic chemicals and substances in our ocean.

The impact is worse for small island developing states. Their physically smaller land area, and limited water sources, are highly vulnerable to continued pressure from E-waste and pollution.

Their smaller economies limit the range of human, technical and financial resources to tackle waste management. While there is some recycling, repair or reuse of discarded items, most E-waste is thrown away.

On their own, small island economies will remain highly at risk.

By building partnerships in selected areas, these islands will be better able to share the benefits of well planned waste management plans and reduce the risk to their environment from E-waste.

Pacific communities will continue to use electronic goods. What people do with these items when they are no longer useful is reshaping the Pacific environment.

CASE STUDY

Cook Islands E-waste Day



The first E-waste Day in the Pacific Islands was held in the Cook Islands on 8 December 2010. The event attracted much public interest and organisers collected seven 20 footer containers of used computer equipment from Rarotonga only for shipment to New Zealand.

The event aimed to:

- Reduce E-waste and promote a clean environment
- Increase public awareness of the risks from E-waste
- Promote proper disposal in schools and the community

The E-waste from Rarotonga was collected in New Zealand along with NZ's E-waste and sent for appropriate recycling. The eDay Trust NZ covered shipping costs, insurance and operation costs in NZ as well as Rarotonga, with the assistance of Reef Shipping. Government partners, NGOs and the private sector helped with the local logistics and operations.

The Cook Islands aims to hold the event more often.

This first event in the Cook Islands focused on computer related equipment only to keep the operation simple and the costs manageable. Future collections will include other electronic equipment as there is a growing volume of discarded material being stored, buried or dumped by consumers.

Efforts in the past to encourage recycling in the Cook Islands have had mixed success. This is partly due to the high cost of collection and limited recycling, and the limited public awareness of the risks of E-waste on the environment and public health.

Whilst the Cook Islands eDay was a highly successful interim project, relying on donor funding to cover the costs of international shipping and recycling of E-waste is not sustainable over the longer term.

Organisers recommended several measures to support better waste management. These include:

- Establishing appropriate and environmentally-conscious markets for receiving ewaste
- Product stewardship - Suppliers of electronics to consider a recycle fee in the sales price
- Funds collected for recycling to be managed by a Trust
- Review environment laws to promote best practice waste management
- Trade agreements to assist with E-waste exports and access to expertise.

The E-waste Day in the Cook Islands provides a useful model that can be built on and improved elsewhere in the region.

The most important tools for tackling the health issues related to E-waste are public awareness and effective waste management plans.

Special events have helped to build awareness about E-waste. Who would be involved for a similar event in your community and what support could you and your office provide?

FIND OUT MORE ONLINE

Cook Islands National Environment Service

www.environment.gov.ck

Enviropaedia – Rethinking Reality

http://www.enviropaedia.com/topic/default.php?topic_id=104

e-wasteguide.info

<http://ewasteguide.info/>

SPREP Waste Management

www.sprep.org

StEP

www.step-initiative.org

Pacific Island Forum Secretariat

<http://www.forumsec.org.fj/>

NZ E-day

<http://www.eday.org.nz/>

Secretariat of the Pacific Community (SPC)

<http://www.spc.int/lrd/>

UNDP

www.beta.undp.org/undp/en/home/ourwork/environmentandenergy/focus_areas/chemicals_management/chemicals-of-concern.html

UNEP GRID ARENDAL Environment Knowledge for Change http://maps.grida.no/go/graphic/what_is_e_waste

UNESCO

www.unesco.org



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The Pacific environment – sustaining our livelihoods and natural heritage in harmony with our cultures.