Overview of ITU Activities on E-Waste Management

Sergio Scarabino
Head of Area Office, Chile, ITU

E-waste is the fastest growing waste stream

- 67 million metric tons of electrical and electronic equipment were put on the market in 2013
- 53 million metric tons e-waste were disposed of worldwide in 2013
- For every one million cell phones that are recycled, 16 tons of copper, 350 kilos of silver, 34 kilos of gold and 15 kilos of palladium can be recovered

Source: United Nations University and United States Environmental Protection Agency

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The best way to deal with e-waste is ...
... avoid (or at least minimize) it!

- From the manufacturing phase through:
  - Designing for easy disassembly and recycling
  - Avoiding use of heavy pollutants
  - Minimization on the use of resources
    - ✓ Regulations and standards
- During the life of equipment:
  - Prolonging its lifetime
  - Designing for reuse/multiple use
- At end of life:
  - E-waste conscious management

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Avoid/minimize through standardization

- <u>Environmentally conscious companies have e-waste minimization programmes in place but:</u>
  - Such programmes are difficult to set up and manage
  - The extra cost can discourage them
  - As individual companies they can have little impact
- <u>Need to create critical mass and act soon</u>
- <u>Regulation is complex and takes long time</u>

Standardization can fill the gap and lead the market

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ITU-T Study Group 5
# "Environment & Climate Change"

ITU-T SG5/WP3 work areas:

- **Q 13/5** - Environmental impact reduction including e-waste

- **Q 14/5** - Setting up a low cost sustainable telecommunication infrastructure for rural communications in developing countries
- **Q 15/5** - ICTs and adaption to the effects of climate change
- **Q 16/5** - Leveraging and enhancing the ICT environmental sustainability
- **Q 17/5** - Energy efficiency for the ICT sector and harmonization of environmental standards
- **Q 18/5** - Methodologies for the assessment of environmental impacts of ICT
- **Q 19/5** - Power feeding systems

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- Saves 82,000 tons of e-waste per year
- Saves at least 13.6 million tonnes of CO2 emissions annually

One adapter size fits all
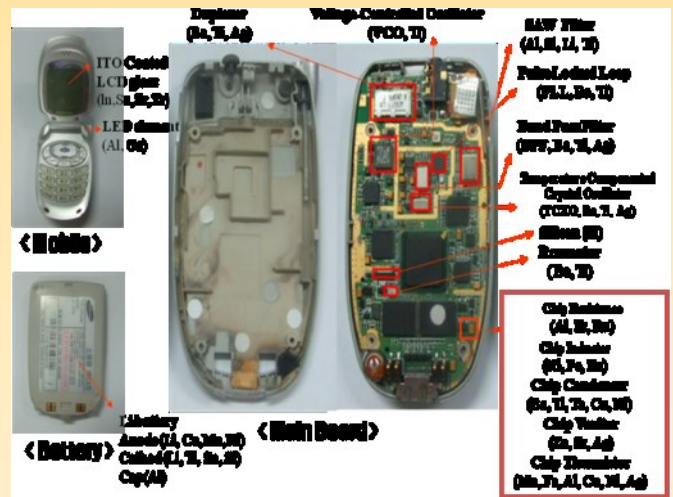
Recycling Rare Metals in ICT Products

Research and Development

# An Energy-Aware Survey on ICT Device Power Supplies

This survey reports the results of a wide analysis performed on a large set of commercially available external power supplies (more than 300 devices verified and more than 200 electrically measured) to assist the standardization activities within ITU-T Study Group 5 (SG5) (Recommendation ITU-T L.1001). Mechanical, electrical and environmental characteristics have been evaluated; correlation and statistics have also been developed.

UNIVERSITÀ DEGLI STUDI DI GENOVA

GeSI
GLOBAL e-SUSTAINABILITY INITIATIVE

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ITU Toolkit on Environmental Sustainability for the ICT Sector

Toolkit on environmental sustainability for the ICT sector
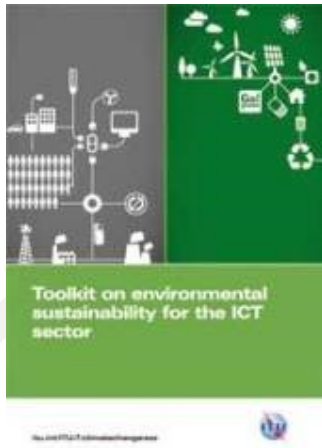
Detailed practical support on how ICT companies can build sustainability into their operations and management

Ongoing contribution to ITU-T Study Group 5 which has the goal of developing global standards in this arena

Standardized checklist of sustainability requirements specific to the ICT sector

Practical support

Checklist

Standards Support

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Toolkit content

Document	Summary
Introduction to toolkit	A business-led perspective on the use of sustainability in ICT organizations
Sustainable ICT in corporate organizations	Sustainability issues with the use of ICT products and services
Sustainable products	Sustainability-led design principles and practice for ICT products
Sustainable buildings	Sustainability management of the construction, use and decommissioning of ICT buildings
End-of-life management	Support in dealing with the various end-of-life stages of ICT equipment
General specifications and KPIs	Environmental KPIs that can be used to manage and evaluate sustainability performance
Assessment framework	Mapping the standards and guidelines applying to the ICT industry

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End-of-life management for ICT equipment

An outline of the various EOL stages (and accompanying legislation) , and support for creating a framework for environmentally-sound management of EOL ICT equipment.

End-of-life management

Material recovery and recycling

Clean supply chains

Offsetting and mitigation

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End-of-life management for ICT equipment

Structure of analysis

- Legal frameworks
- EOL management steps
- Regulatory compliance
- Best practice guidance
- Clean supply chains and conflict minerals
- Socio-economic issues
- Corporate social responsibility
- Checklists

Key guidance to ensure best practices:

▪**General Material Recovery and Recycling Facility Guidelines /** minimum criteria to select a service provider

▪**Clean Supply Chain and Conflict Minerals :**   An opportunity for a greener industry

▪**Offsetting Opportunities and Mitigation :** The ICT sector response to Social and Environmental issues generated by bad EOL practices

Collaboration with over 50 partners

- 3p Institute for Sustainable Management
- Alcatel Lucent
- BBC
- BIO Intelligence Service
- BT
- CEDARE
- Climate Associates
- ClimateCHECK
- Cogeco Cable
- DATEC Technologies
- Dell
- Ernst & Young
- ETRI
- ETNO
- ETSI
- European Broadcasting Union

- France Telecom/Orange
- Fronesys
- Fujitsu
- GHG Management Institute (GHGMI)
- Hewlett-Packard
- Hitachi
- Huawei
- IBI Group
- Imperial College
- Infosys
- International Telecommunication Union (ITU)
- Mandat International
- MicroPro Computers
- Microsoft
- MJRD Assessment Inc.
- National Inter-University Consortium for Telecommunications
- Nokia Siemens Networks
- NEC Empowered by Innovation
- NTT

- Panasonic
- PE INTERNATIONAL AG
- Research In Motion
- Scuola Superiore Sant'Anna of Pisa
- Step Initiative
- Telecom Italia
- Telecommunications Networks and Telematics Laboratory
- Telecommunication Technology Committee
- Telefónica
- Thomson Reuters
- Toshiba
- United Nations Environmental Programme
- United Nations Environmental Programme Basel convention
- United Nations University
- University of Genova
- University of Zagreb
- Verizon
- Vodafone Ghana

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Raising Awareness

E-Waste Actions in Latin America

El Salvador, 19-21 March 2013

Quito, 13 August 2013

Key actions:

- Raise awareness on the dangers of e-waste;
- Encourage the consideration of e-waste management in the design of ICT policy;
- Adopt strategic policies, international standards and regulatory approaches that are sensitive to local context;
- Encourage concerted cooperation in handling e-waste at the national, regional and international level.

Upcoming workshops and events in Latin America

- ITU/CITEL Workshop on Environmentally Sound Management of
E-waste - Mendoza, Argentina, 9 October 2013

- Joint Coordination Activity on ICT and Climate Change – Lima, Peru, 5 December 2013

- Workshop on Smart Sustainable Cities – Lima, Peru, 5 December 2013

- Meeting of the Focus Group on Smart Sustainable Cities – Lima, Peru, 6 December 2013

- Meeting of the Focus Group on Smart Water Management – Lima, Peru, 10 December 2013.

- ITU-T Study Group 5 meeting - Lima, Peru, 2-13 December 2013

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E-Waste ... the solution!

Need of an integrated waste management approach to generate decent employment, curb health problems, cut greenhouse gas emissions and recover a wide range of valuable metals including silver, gold, palladium, copper and indium – by turning an e-challenge into an e-opportunity.

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Next Steps

- How ITU and CITEL can work together?
- How ITU-T standards can be included in national policies and legislations to tackle e-waste in LATAM?
- How ITU can assist countries to take appropriate measures to turn e-waste into a business opportunity in LATAM?

Links & Additional Information

- ITU-T/SG5 "Environment & Climate Change"
  http://www.itu.int/ITU-T/studygroups/com05/index.asp

- ITU-T and Climate Change
  http://www.itu.int/ITU-T/climatechange

- ITU Symposia & Events on ICTs and Climate Change
  http://www.itu.int/ITU-T/worksem/climatechange

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Thank YOU

Additional information:
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