Green ICT Workshop

EACO Working Group 10
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Module 1
The Green ICT concept

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Learning Objectives

- By the end of this module you should be able to:
  - Define Green ICT, why it is needed and the benefits that come with utilising ICT for greening.
  - Explore the different areas where green ICT is applied and the benefits thereafter.

What is Green ICT

- Green ICT is the application of technologies and practices that materially reduce resource consumption (energy, water, conflict minerals, etc.) and harmful emissions (CO2, toxic materials, e-waste, etc.) in Information and Communications Technology (ICT) lifecycles: manufacture & construction, deployment, use, and disposal. [vertatique @Green ICT]

What is Green ICT

- Green ICT is about the use of ICT for environmental sustainability. It thus includes not only improving environmental efficiency of ICT itself, but also the use of ICT to make other industries and business domains more sustainable. [Green VTT]

- Green ICT is more than just the climate change and low carbon economy:
  - efficient use of natural resources,
  - reductions of hazardous substances (ROHS)
  - conservation of biodiversity

What is Green ICT

- ICT includes:
  - Desktop and Laptop PCS,TVs, radios
  - Printers, scanners, copiers, faxes, projectors
  - Smart phones, PDAs, desktop phones
  - Wireless and connected routers, modems, hubs, and other networking equipment
  - Mail servers, file servers, firewalls, databases etc.
  - Data Centres, Network Operating Centres (NOCs) ,call centres, media studios, grid control centres and the equipment in them
  - Smart infrastructures: Smart Grid, Smart Buildings
  - Behaviour: of ICT practioners and ICT users

Why Green ICT

- ICT's global CO2 footprint in 2007 was 2% of all emissions, this is at par with that of the aviation industry.
- ICT's global CO2 footprint is project to be 4% by 2020.

Why Green ICT

- ICT is becoming a significant part in our lives and how we conduct business
  - telephony
  - email
  - e-commerce
  - electronic distribution of music and video

- ICT contribution to energy consumption, carbon emissions and waste is on the rise

Why Green ICT

- Green ICT has challenges at each stage of the product life cycle:
  - how the materials in ICT equipment are mined/produced
  - the conditions in which they are manufactured and the energy in this process
  - transport to the consumers
  - energy required in their usage of them
  - the disposal of them at the end of their life time

Why Green ICT

- Green ICT encourages equipment that:
  - is sustainably produced
  - lasts longer
  - wastes less energy
  - is used in an efficient way
  - is disposed of responsibly

Green ICT in other sectors

Economic Sector	ICT Application
Manufacturing	Smart Manufacturing
Energy	Smart Energy
Buildings	Smart Buildings
Mobility and Logistics	Connected Private Transportation
	Traffic Control and Optimisation
	Smart Logistics
Food	Smart Agriculture
Work and Business	E-work
	E-banking
	E-commerce
Health	E-health
Learning	E-learning

Benefits of Green ICT

- Organisations benefit from Green ICT through:
  - reduction in energy consumption and hence CO2 emissions
  - cost savings- energy bill, transportation costs
- Huge gains from Green ICT are to be obtained from applying ICT in other business sectors rather than in ICT itself

Research Areas

- Research in Green ICT should focus on the following areas:
  - ICT technology to improve energy efficiency
  - Waste management
  - Education and Awareness & Policy building
  - ICT greening other sectors

Green ICT Guidelines

- Reduce the amount of energy consumed by our ICT equipment, use equipment that consume less power
- Ensure equipment is switched off when not in use
- Use the sleep mode on the PCs and ICT equipment when not in use
- Work with the Change Programmes to identify the impact of the changes they propose.
- Reduce paper consumption, set printers to duplex

Raise awareness about Green ICT

- Develop regulations and policies
- Organizing workshops and sessions to raise community awareness about green ICT
- Develop a training program for building capacities in the field of green ICT
- Compile leaflets and publications, manuals to raise awareness about green ICT and e-waste
- Establish conditions and specification for Green ICT equipment's in regard with global trends
- Establish awards to recognise Green ICT best practices

Conclusion

- EACO to embark in research on Green ICT:
  - Investigating on awareness of Green ICT (surveys)
  - Studying energy consumption of ICT equipment
  - Policy building
  - ICT waste management (asset disposal)
  - Funding for collaborative research on Green ICT
- Raise awareness and highlight benefits of Green ICT
  - Training workshops
  - Awards
- Green ICT should be viewed as a multidisciplinary effort. There is need to develop a Green ICT policy for the region

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Thank you