

1. Introduction – The environmental impact of ICT sector

Information and communication technologies (ICTs) have been contributing to environmental problems: computers, electronic devices and ICT infrastructure consume significant amounts of electricity, placing a heavy burden on our electric grids and contributing to greenhouse gas emissions. In 2007, the total footprint of the ICT sector – including personal computers (PCs) and peripherals, telecoms networks and devices and data centers – was 830 Mt CO₂ emission, about 2% of the estimated total emissions from human activity released that year (a figure equivalent to aviation).

ICT hardware poses severe environmental problems both during its production and its disposal. Each stage of a computer's life, from its production, throughout its use, and into its disposal, presents environmental problems. Manufacturing computers and their various electronic and non-electronic components consumes electricity, raw materials, chemicals, and water, and generates hazardous waste. All these directly or indirectly increase carbon dioxide emissions and impact the environment and the trend is to increase in the BAU (Business As Usual) scenario.

2. The definition of Green ICT

Green ICT is the study and practice of designing, manufacturing, using, and disposing of computers, servers, and associated subsystems—such as monitors, printers, storage devices, and networking and communications systems—efficiently and effectively with minimal or no impact on the environment.

Green ICT includes the dimensions of environmental sustainability, the economics of energy efficiency, and the total cost of ownership, which includes the cost of disposal and recycling. Green ICT benefits the environment by improving energy efficiency, lowering greenhouse gas emissions, using less harmful materials, and encouraging reuse and recycling.

Green design, Green manufacturing, Green use, Green disposal are complementary paths of green ICT. Only focusing on these four fronts we can achieve total environmental sustainability from the IT side and make IT greener throughout its entire lifecycle.

3. Public and Private Sector

In all European countries the public sector is usually the biggest customer of ICT products and services. The power consumption and the wasteful usage of ICT resources at the public sector of many European countries is not controlled. The absence of rules and the lack of codes related to the usage of ICT infrastructure create prodigal administration and accelerate the climate changes.

The massive usage of many ICT applications like e-government, e-learning and e-transportation could contribute to the elimination of the greenhouse gas and boost the environmental protection. The public authorities must adopt actions in both a national and in a pan-European level in order to enhance the public e-services. The standard European surveys and indexes of e-government must be empowered in order to measure the positive-parallel effect of e-services at the environment.

The private sector, being more flexible, could easily adopt practices that contribute to the energy efficiency and elimination of power consumption. Operations such as video and web-conference, teleworking, etc. could replace expensive business trips or eliminate the daily business transportations.

Both private and public sector must test and adopt modern technologies like virtualization, cloud computing, data center consolidation and reusability of data/information in order to be greener.

4. IT Industry

IT industry (both hardware and software producers) is the key player for the protection of environment and the elimination of power consumption. The usage of recycled components, the adoption of rules and guidelines that contribute to lower power consumption ensure the energy efficiency. These practices should be standard choices at the IT industry, which have to also be indicated by recognizable marks/signs in order for the consumers to be familiar with specs and certifications that ensure the recycling and the energy efficiency of those ICT products.

5. CEPIS and Green ICT

CEPIS, as the leading organization of European ICT professionals must mobilize its members to promote the ideas of Green ICT and contribute to the environment's protection. The main objectives of CEPIS concerning Green ICT are:

- To raise the Green ICT issues to both the European Commission and the European Institutions and to participate in all relevant initiatives and events.
- To increase the actions of its member societies in their countries in order to promote the ideas of Green ICT.
- To ensure that the ICT professionals have the required knowledge to handle the Green ICT issues and are capable to design solutions and operate systems in accordance to the Green ICT rules.
- To mobilize the ICT products end users in order to change habits and to ensure that they purchase and use ICT devices which are compatible with Green criteria and, in a way, more friendly to the environment.
- To bring on the awarding of enterprises or organizations that adopt and apply Green ICT.
- To promote the good practices on Green ICT by adopting a Green ICT certification or a Green ICT mark/sign.