CEPIS
Council of European Professional Informatics Societies

CEPIS Code of Best Practices for Green ICT

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Contents:

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1 Introduction

As the leading organisation of ICT professionals in Europe, the Council of European Professional Informatics Societies (CEPIS)[1] is committed to mobilising the ICT community through its member informatics societies to promote Green ICT and the use of ICT to help organisations and individuals work in more sustainable and energy efficient ways that reduce impacts on the environment.

CEPIS and national European informatics societies are now, as part of this on-going commitment, proposing a *Code of Best Practices for Green ICT.*

The Code seeks to raise awareness and adoption of easy-to-implement and cost-saving best practices amongst all European enterprises including SMEs which make up 99% of all European businesses.[2] The Code describes, in simple terms, what organisations and individuals can do to use ICT in a more environmentally friendly manner. It is hoped the Code will also help highlight the potential of ICT, within not only the ICT sector but also across all sectors, to help an organisation to improve the sustainability of its operations and encourage energy saving behaviour with regard to everyday ICT devices.

European stakeholders are encouraged and invited to commit their support to the Code. Signatories of the Code pledge their support for the goals of this Code. The Code is intended as a guide to Green ICT best practice. Signatories, whether they are companies, organisations, or individuals are free to choose which and how many practices to implement.

[1] See www.cepis.org for more information
[2] European Commission, Directorate-General for Enterprise and Industry website, "Fact and figures about the EU's Small and Medium Enterprise (SME)".

1.1 Go Green

The aim of these practices is to encourage energy efficient and energy saving behaviour with regard to our daily use of ICT devices, targeting both companies and individuals. The practices encompass the lifecycle for ICT devices whose operation is under the direct control of your organisation and its staff, and are seen as being easy and cost effective to implement.

They are aimed at individuals and organisations alike, including multinationals and SMEs, as they can be implemented whether you are using devices in the home, office or a larger corporate environment.

Developing Green ICT action plans, processes and strategies:

- Develop and articulate a Green ICT policy tailored to your organisation's use of ICT.
- Develop the policy with the goal of addressing your entire organisation – at every level – not only the ICT Department.
- As a minimum include:
    - Green ICT procurement policies;
    - Re-use, Re-cycling, and Disposal of ICT devices;
    - Energy efficient use of end-user ICT devices;
    - Organisational change management and training policies to raise awareness and skills in Green ICT;
    - Exploitation of ICT services to improve the sustainability of the organisations processes and practices e.g. to use e-conferencing services to reduce staff travel.
- Aim to embed the Green ICT policy in existing organisational sustainability polices and reporting, ideally leading to a Green ICT action plan including a trajectory to reduce overall energy consumption.
- Establish internal progress reporting mechanisms to monitor implementation of a Green ICT policy.
- Consult existing best practice with regard to Green ICT activity implementation planning, such as the guidance on implementation planning[3] developed by the Swiss Informatics society.

Computer monitors:

- Ensure that whenever possible computer monitors are not set at their highest brightness level.
- Activate screensaver and power-saving functions on monitors.
- Make sure monitors are turned off completely when not in use.
- When procuring monitors, ensure the best energy efficient devices are sought.

Computer workstations:

- Encourage computer users to fully turn off their workstations when not in use rather than use the sleep mode function.
- Activate energy savings functions/software on workstations if available e.g. sleep and hibernation standby modes.

[3] http://www.greenit.s-i.ch/en/home/implementation

- Procure energy efficient laptops/netbooks or other portable end user computers as opposed to desktop workstations. These, with appropriate communication services will enable staff to work more flexibly and contribute to wider improvements in organisational sustainability e.g. ability to work around offices, whilst on the move or at home. Nevertheless, on the other hand this will be followed by the requests for supplementary larger screens to better visualization at the workplace, which would be counterproductive to the energetic benefit. Moreover, this will generate an increase on e-waste as the average life of a laptop is smaller.
  On the other hand, it is worth a mention that the recommendation of moving desktops to laptops is followed by the requests for supplementary large screens to better visualization at the workplace which means that the energetic benefit is not evident. This will generate an increase on e-waste as the average lie of a laptop is smaller.
- Implement light clients/thin clients, which mean a computer on a network where most functions are carried out on a central server. The benefits are improved maintenance and security due to central administration of the hardware and software in the datacentre and therefore fewer devices.

Printers:

- Ensure printers are in standby mode when not used during daytime and turned off overnight.
- Set printers to print by default in black and white as well as to print double-sided (duplex printing).
- Use recycled paper and toners in printers and where possible 'closed loop' paper.
  Closed loop recycling is a process in which waste material is recycled back into new versions of the original product. The recycled products are then bought, used and recycled again - effectively 'closing the loop' on the life cycle of the product. Recycle/dispose of ink/toner cartridges through suppliers' recycling programmes.
- Procure and make use of multi-functional devices encompassing functions for printing, scanning, faxing and copying.
- Use networks to share printers across the organisation rather than have a multitude of individual printers.
- Implement printing quotas where possible.
- Adopt proximity printing, with prints being buffered until staff login at the printer – saves waste of uncollected prints.

Network devices:

- Audit devices on-site and seek to better match capacity to user demand, removing surplus devices with due regard to resilience needs, where possible switching off channels and adopting any available power saving modes to reduce energy consumption outside office hours.

On-site Data Centres, Servers and Storage:

- For best practice with regard to the energy consumption in data centres and server rooms we encourage data centre operators to consult the *European Code of Conduct for Energy Efficiency for Data Centres*[4]. The code is a voluntary initiative managed by the European Commission's Joint Research Centre (JRC).

[4] http://iet.jrc.ec.europa.eu/energyefficiency/ict-codes-conduct/data-centres-energy-efficiency

Miscellaneous:

- Disconnect power supplies from power outlets when not in use.
- Turn off Wi-Fi access points when not in use.
- Use telephony device management software.
- Use wireless device management software.

1.2 Buy Green

Given the common occurrence among SMEs to use external ICT service providers, the aim of these practices is to encourage a greener ICT procurement process.

- When inviting offers from external ICT service providers, encourage all suppliers to provide details pertaining to environmental considerations and sustainability.
- Enquire with current and possible future IT service providers on the possibilities of receiving Green ICT reports from providers, including aspects such as monitoring of energy consumption and the sustainability of their supply chains and manufacturing facilities.
- Consult existing best practice with regard to Green ICT procurement, such as the International Telecommunication Union's (ITU) *Guidance on green ICT procurement*[5], and procure devices that are certified for energy and resource efficiency such as those provided by Energy Star[6] and EPEAT[7] schemes.

1.3 Track Energy Consumption

You can't control what you can't measure! Accurate ICT and overall energy consumption data will identify where the highest consumption lies and allow for strategic and operational decisions to be taken with regard to ICT use, procurement, and more general energy saving practices.

- Implement an energy consumption monitoring system to accurately measure the energy consumption and energy efficiency of your organisation's ICT equipment/devices as well as energy consumption linked to heating, cooling and lighting.
- Opt for green energy options offered by your energy provider(s).

1.4 Encourage Behavioural Change

These practices are aimed at encouraging behavioural change within organisations towards more energy efficient and energy aware behaviour. Not all practices will fit smaller, SME-type, organisations.

- Use internal communication channels to inform employees about relevant energy efficiency actions that have been taken, including monthly consumption levels of the company.
- Install simple energy usage displays, showing the building's energy consumption and energy cost in real-time, connected to the central Building Management System.

[5] http://www.itu.int/ITU-T/climatechange/report-guidance.html?goback=%2Egde_3590539_member_167534758#%21
[6] http://www.energystar.gov/products/certified-products
[7] http://www.epeat.net/resources/criteria/

- Increase energy saving behaviour by organising competitions (games) between internal divisions and departments and reward the most energy efficient division or the "Sustainable division of the month".
- Organise regular seminars/training on energy efficient behaviour for employees building on case studies, external expertise, or actions taken within the organisation.
- Nominate internal Green Teams and/or Energy Champions among employees in departments or divisions, responsible for raising awareness of energy efficient behaviour among colleagues.
- Provide employees with the raw energy and print consumption data should they wish to have access to it. Encourage employees to analyse the data and suggest additional energy efficiency actions that could benefit the organisation.
- Conduct surveys to receive feedback from staff about comfort levels (cooling, heating, and lighting) and use this feedback for energy efficiency retrofits within the organisation.
- Hold virtual meetings and make use of virtual offices and video/web and teleconferencing technology to help achieve wider sustainability improvements for your organisation.
- Encourage paperless business processes (e.g. scan and electronically disseminate key documents, etc.).

1.5 Implement Existing Best Practice

These practices are aimed at implementing existing best practice in the field of Green ICT, including the development and implementation of new practices within an organisation.

- Adopt a big picture approach to identifying the environmental impacts (both positive and negative) of your operations.
- View and assess your products and/or services from a life cycle perspective considering the impacts that occur early (e.g. production and transportation of materials and components or provision of services) as well as at later stages (e.g. use, maintenance, and disposal).
- Develop concrete Green ICT sustainability policies and programmes to address impact areas and gradually achieve your targets.
- Engage, benchmark and seek guidance from organisations within your industry. Look for sustainability initiatives and seek help from key partners such as industry or sector associations.
- Develop a (yearly) Green ICT report to communicate your sustainability performance and progress to your stakeholders.
- Engage and learn from your stakeholders regarding your sustainability performance.
- Look for opportunities, not only risks stemming from your sustainability performance.
- Think out of the box and innovate to bring radical changes that could disrupt your value proposition and maximize benefits for all stakeholders.

2 Signatories of the CEPIS Code of Best Practices for Green ICT

Those who wish to commit their support and sign the CEPIS Code of Best Practices for Green ICT should contact their national computer society in order to do so.

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About CEPIS

The Council of European Professional Informatics Societies (CEPIS) is a non-profit organisation seeking to improve and promote a high standard among informatics professionals in recognition of the impact that Informatics has on employment, business and society.

CEPIS represents 33 Member Societies in 32 countries. Established in 1989, CEPIS has grown to represent over 450,000 informatics professionals in Europe and beyond.