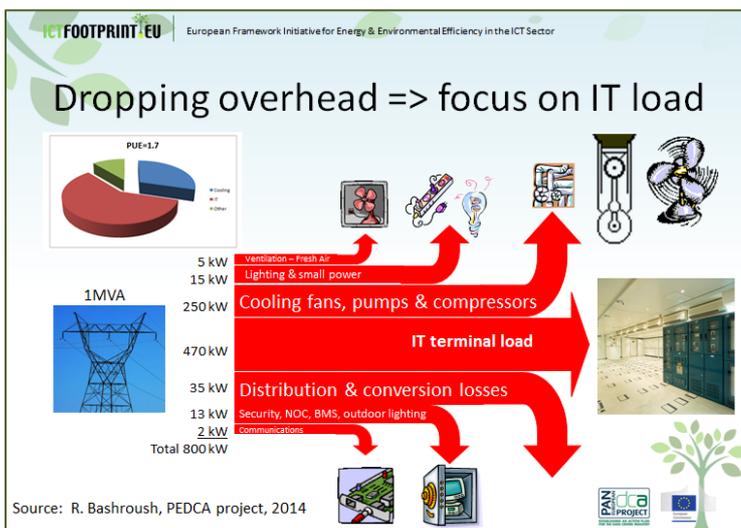


“Tools and Services for Energy Management” ICTFOOTPRINT.eu Webinar Report

In less than 1 hour, two experts on energy efficiency in ICT, Jaak Vlasveld (Director of GreenIT Amsterdam) and Rabih Bashroush (Coordinator of Eureka project) gave some valuable information about how to **procure** and **manage sustainable ICT capacity** on public datacentres and server rooms.

Many sources of energy loss in ICT

Jaak Vlasveld explained how to achieve energy efficiency gains without impacting performance and stability of ICT, illustrating sustainable ICT approaches, which are listed under “How to procure and manage sustainable ICT”. One big part of making ICT sustainable is to improve the energy efficiency in servers and data servers,



which process and store high volumes of data. There are many sources of energy loss, mostly from IT equipment activity, cooling fans and conversion, compromising the overall efficiency of ICT infrastructures.

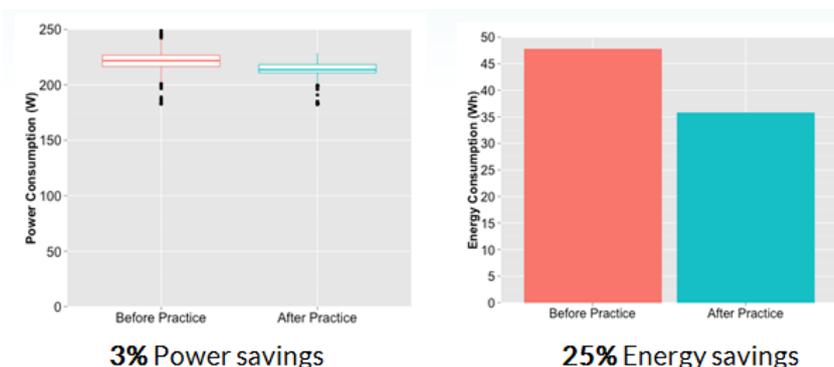
It is common that only 1% of the energy is used by the CPU's equipment, compared to the amount of energy that has to be generated so the equipment can work.

Servers are used on average at 15% of their full capacity. The absence of consolidating procedures in servers prevents them to reach 60% of their capacity.

How to procure and manage sustainable ICT?

One of the main messages from webinar is that *energy efficiency is possible thanks to sustainable ICT approaches*.

- **Energy Efficiency from hardware & software:** If you monitor energy consumption, it is possible to decide where optimisation must be applied. SEFLab, from Greening the Cloud Project, created sensor technologies which can measure the individual energy used by software running on each individual server component, decreasing the overall energy consumption.
- **Doing experiments on energy consumption:** Doing different experiments and analysing energy consumption is a way to identify where energy savings can be achieved. One example showcased allowed savings of 25% thanks to this approach, while another allowed savings of 46%.



- **High energy savings from processor's optimization:** Applying Demand Based Switching technology, where a processor automatically reduces its clock speed during limited utilisation, allows electricity savings around 20%, without affecting the equipment's performance.
- **Equipment's Consolidation is an option as well:** Energy gains can come from consolidation of existing servers without buying more modern servers with better power performance. Servers' consolidation, together with the virtualisation of the hardware where applications are hosted can allow savings of up to 50%.

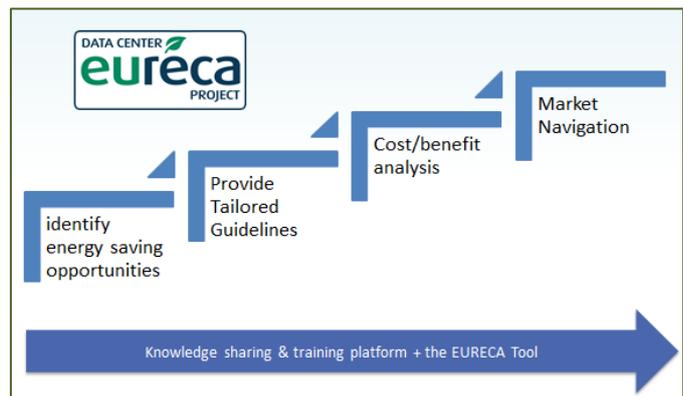
Success stories from the webinar will be available on ICTFOOTPRINT.eu website, at "<https://www.ictfootprint.eu/en/success-stories>".

High Energy Savings potential from Public Procurement

£90 million was the annual UK Universities ICT electricity bill in 2012, where 60% was due to servers. Plus, European Public sector spends 19% of its GDP on Energy bills (€2.200 Billions). Data centres are responsible for 3% of global electricity supply and for 2% of total greenhouse gas emissions (the same carbon footprint as the airline industry). There is a big potential for energy savings here!

According to Rabih Bashroush, there are many challenges for the Public sector to improve their energy efficiency, one of them being the lack of technical expertise. The **Eureca project** supports the public sector with the uptake & procurement of innovative energy efficient and environmentally sound data centre products and services, by helping them identify energy savings opportunities.

They provide an easy-to-use online tool, focused on data centres, to guide, train and support with a customised report, highlighting energy savings opportunities and relevant areas of the EU Code of Conduct that can be applied. Plus, Eureca organises training and networking sessions on data centres energy efficiency targeting data centre managers, procurers, and policy makers.



Both webinar video and PowerPoint presentation are available on the webinar page at "<https://www.ictfootprint.eu/en/webinar/tools-and-services-energy-management>"

ICTFOOTPRINT.eu webinars are for any European ICT player that needs to improve its energy efficiency in ICT.

To not miss any of them, just register to the ICTFOOTPRINT.eu newsletter (<https://ictfootprint.eu/#newsletter>).

About the speakers

Jaak Vlasveld is the director of Green IT Amsterdam Region, the public-private cooperation that makes the energy transition possible with IT for the Amsterdam region. Green IT's mission is to scout, test and showcase innovative IT solutions for increasing energy efficiency and decreasing carbon emissions. Jaak is an innovation expert, experienced in integrating new technologies in current and novel scenarios through setting up and running multi-stakeholder collaboration platforms.

Dr Rabih Bashroush is a Reader at the University of East London (UEL), Director of the Enterprise Computing research group and the coordinator of Eureka project. His main research interest is in Cloud Computing and Energy Efficiency in Data Centres. Before joining UEL, Rabih spent 10 years with the Queen's University Belfast and worked in the ICT industry since 1997. He held various visiting scientist roles at the Software Engineering Institute Carnegie Mellon University, USA; Philips Research Labs, Netherlands; and Danfoss Power Electronics, Denmark.

WEBINAR BRIEF PRESENTATION	
Title	"Tools and Services for Energy Management"
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